

ISO 14001 Environmental Management System Training

**Upgrading Your Environmental Management System—
Navigating the ISO 14001:2026 Update**

Iowa Department of Natural Resources

August 13, 2026

Presented By: Jess Nicholson, Environmental Engineer,
Burns & McDonnell

This webinar is being recorded

All slides and recordings of webinars in this series are
available at

<https://www.iowadnr.gov/environmental-protection/land-quality/pollution-prevention-services/p2-workshops>



Welcome and Introductions

- ▶ Name
- ▶ Where do you work?
 - ▶ Title/Department/Facility
- ▶ What is your experience with:
 - ▶ EMS?
 - ▶ ISO 14001?
 - ▶ Environmental Compliance?
 - ▶ Audits?
- ▶ What do you hope to get out of this training?



Previous *EMS in Depth* Webinars

- ▶ Identifying Environmental Aspects & Impacts and Defining Significance
- ▶ Establishing Environmental Objectives and Actions to Achieve Them
- ▶ Auditing Your Environmental Management System
- ▶ EMS Corrective Actions & An EMS Professional Q&A Panel
- ▶ From Findings to Fixes – A Guide to High-Quality Auditing and Root Cause Analysis



Don't worry if you missed it!

Slides and recordings of webinars in this series are available at

<https://www.iowadnr.gov/environmental-protection/land-quality/pollution-prevention-services/p2-workshops>

Survey Results

► What you want more of:



Webinar Agenda

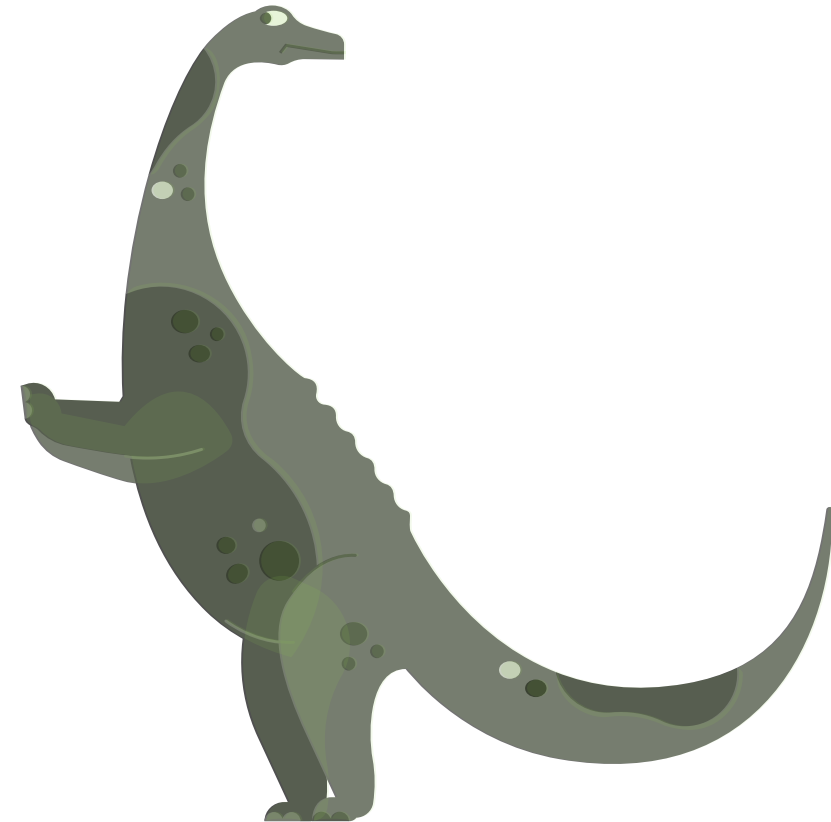
- ▶ ISO 14001 Evolution
- ▶ Key Changes and Practical Examples
- ▶ Upgrading an Existing EMS
 - ▶ Timelines and Deadlines for Certified Facilities
 - ▶ Conducting a Gap Analysis and Prioritizing Updates
 - ▶ Identifying High-Risk Areas For Your Facility
 - ▶ Integration With ISO 9001 and ISO 45001
- ▶ Workshop: Gap Analysis
- ▶ Conclusion and Q&A



ISO 14001 Evolution

ISO 14001 Evolution

- ▶ ISO 14000 was first published in 1996, establishing a global framework for organizations to minimize their environmental footprint.
- ▶ The standard has since evolved to keep up with environmental challenges, most recently with the release of ISO 14001:2026.



ISO 14001 Evolution

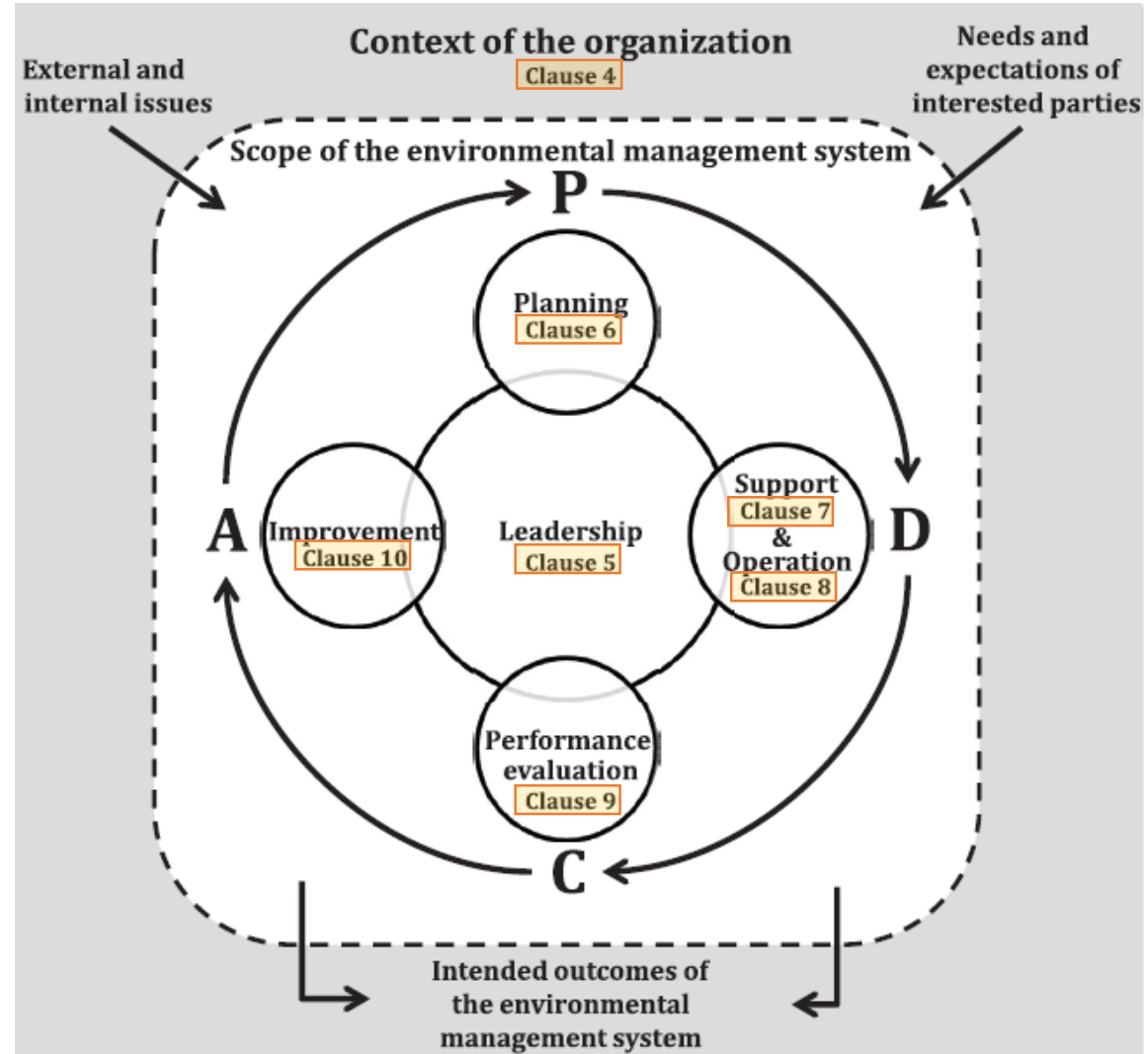
- ▶ 2015: Leadership involvement and lifecycle perspective introduction
- ▶ 2024: 2024 Climate Action amendments involving relevant issues and requirements
- ▶ 2026: Climate change integration and lifecycle accountability



Key Changes and Practical Examples

Key Changes

- ▶ “Plan, Do, Check, Act” (or PDCA) model
- ▶ Clauses 4 through 10 have been added to the Figure

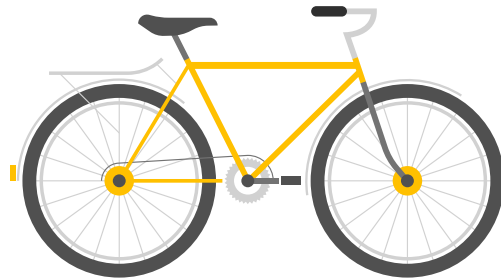


Key Changes

- ▶ In general, the changes to the ISO 14001 standard improve clarity, add **emphasis** to existing standards, and introduce concepts. These changes include:
 - ▶ Life Cycle Perspective
 - ▶ Internal Audit
 - ▶ Climate Change Integration
 - ▶ Management Review
 - ▶ Change Management
 - ▶ Continual Improvement

Key Changes: Life Cycle Perspective

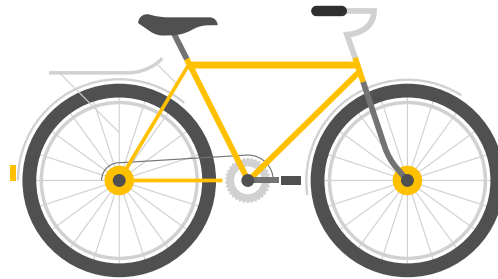
- ▶ EMS scope must reflect full lifecycle impacts, including upstream and downstream impacts.
 - ▶ The standard now clarifies how organizations must evaluate environmental aspects across all lifecycle stages. From raw material to end-of-life.
- ▶ ISO Clause 4.3
 - ▶ “When determining the scope, the organization shall consider:
 - ▶ E) Its authority and ability to exercise control and influence over the life cycle of its activities, products and services.”



Key Changes: Life Cycle Perspective

▶ 6.1.2 Environmental Aspects

- ▶ NOTE 1: A life cycle perspective includes consideration of the environmental aspects and impacts at each life cycle stage. The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal. The organization shall determine potential emergency situations (see 8.2), including those that can have an environmental impact.



Key Changes: Climate Change Integration

- ▶ Moving beyond isolated aspects, organizations must explicitly consider climate change risks and opportunities in their EMS.
- ▶ Reflected in the new text in
 - ▶ 4.1 Understanding The Organization And Its Context
 - ▶ 6.1.4 Risks and Opportunities



Key Changes: Climate Change Integration

▶ 4.1 Understanding the Organization and Its Context

- ▶ The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system.
 - ▶ ~~Such issues shall include environmental conditions being affected by or capable of affecting the organization.~~
 - ▶ These issues shall include environmental conditions being affected by the organization or capable of affecting the organization, such as pollution levels, availability of natural resources, climate change, biodiversity or ecosystem health.



Key Changes: Climate Change Integration

▶ 6.1.4 Risks and Opportunities (NEW)

▶ When planning for the environmental management system, the organization shall consider:

- ▶ a) The external and internal issues referred to in 4.1;
- ▶ b) The relevant needs and expectations (i.e requirements) of interested parties referred to in 4.2;
- ▶ c) The scope of its environmental management system referred to in 4.3;

▶ Examples:

- ▶ Environmental conditions affecting operations
- ▶ Changes to the business
- ▶ Customer expectations related to sustainability



Key Changes: Climate Change Integration

▶ 6.1.4 Risks and Opportunities (NEW) – continued:

- ▶ And determine the risks and opportunities to the organization related to its environmental aspects, compliance obligations and other issues and requirements, if any, identified in 4.1 and 4.2, that need to be addressed to:
 - ▶ Give assurance that the environmental management system can achieve its intended outcomes;
 - ▶ Prevent, or reduce, undesired effects, including the potential for external environmental conditions to affect the organization;
 - ▶ Achieve continual improvement.



Key Changes: Climate Change Integration

- ▶ **6.1.4 Risks and Opportunities (NEW) – continued:**
 - ▶ ~~The organization shall maintain documented information of its compliance obligations.~~
 - ▶ The risks and opportunities that need to be addressed shall be available as documented information.
- ▶ Example: *All* risks and opportunities, not just compliance related, shall be available for observation to relevant parties.



Key Changes: Change Management

- ▶ Introduction of a structured change management clause for EMS-related changes.
- ▶ **6.3 Planning of changes**
 - ▶ **When the organization determines the need for changes that affect or can affect the environmental management system, the changes shall be carried out in a planned manner. The changes shall be managed to ensure that the organization can achieve the intended outcomes of its environmental management system.**



Key Changes: Change Management

- ▶ Introduction of a structured change management clause (Clause 6.3) for EMS-related changes.
- ▶ 6.3 Planning of changes (ctd)
 - ▶ **NOTE 1: The need for change to the environmental management system can arise from internal or external sources.**



Key Changes: Change Management

- ▶ Examples - Changes affecting the environmental management system can arise from internal or external sources, including:
 - ▶ a) New or changes to existing products, services, processes, operations, equipment or facilities;
 - ▶ b) Changes to compliance obligations;
 - ▶ c) Changes in knowledge about environmental aspects, environmental impacts or risks and opportunities;
 - ▶ d) Developments in knowledge and technology;
 - ▶ e) Changes to technical specifications of materials or process inputs;
 - ▶ f) Changes in business assets due to mergers, acquisitions, joint ventures or divestitures;
 - ▶ g) Changes in staff or external providers, including contractors;
 - ▶ h) Business disruption due to supply chain issues.



Key Changes: Internal Audit

- ▶ Clause 9.2.2 Internal Audit Program
- ▶ The organization shall:
 - ▶ a) Define the audit objective(s), audit criteria and scope for each audit;
 - ▶ b) Select auditors and conduct audits to ensure objectivity and the impartiality of the audit process;
 - ▶ c) Ensure that the results of the audits are reported to relevant management.
- ▶ The following documented information shall be available:
 - ▶ The audit program(s);
 - ▶ Evidence of the implementation of the audit program(s);
 - ▶ Evidence of the audit results.



Key Changes: Management Review

- ▶ Greater emphasis on leadership accountability, integrity, and stakeholder engagement.
- ▶ Section 9.3 Management Review now clearly describes what inputs shall be included, and what results should be included in documented information
 - ▶ 9.3.1 General
 - ▶ Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.
 - ▶ 9.3.2 Management review inputs
 - ▶ 9.3.3 Management review results



Key Changes: Management Review

▶ Inputs

- ▶ a) Status of prior review actions;
- ▶ b) Changes to Relevant internal and external issues; Interested-party needs and compliance obligations; Significant environmental aspects; Risks and opportunities;
- ▶ c) Progress toward environmental objectives;
- ▶ d) Environmental performance trends: Nonconformities and corrective actions; Monitoring and measurement results; Compliance performance; Audit results;
- ▶ e) Resource adequacy;
- ▶ f) Stakeholder communications, including complaints;
- ▶ g) Continual improvement opportunities.



Key Changes: Management Review

► Results

- a) EMS suitability, adequacy, and effectiveness;
 - b) Continual improvement decisions;
 - c) Needed EMS changes, including resources;
 - d) Actions for unmet environmental objectives;
 - e) Opportunities to integrate the EMS with business processes;
 - f) Strategic implications.
- Document management review results as evidence.



Key Changes: Continual Improvement

- ▶ ISO Clauses

- ▶ 10.1 Continual improvement

- ▶ The organization shall continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance by determining opportunities for improvement (see Clause 9 and 10.2) and implementing necessary actions to achieve the intended outcomes of its environmental management system.



What is No Longer Effective

- ▶ Generic policies ignoring local climate adaptation



- ▶ Reactive risks and opportunities



- ▶ Siloed management



Upgrading an Existing EMS

Upgrading an Existing EMS

- ▶ Timelines and deadlines for certified facilities
- ▶ Transition timeline and deadlines
- ▶ Targeted gap analysis strategy
- ▶ Prioritizing updates: Legal compliance first, climate integration second



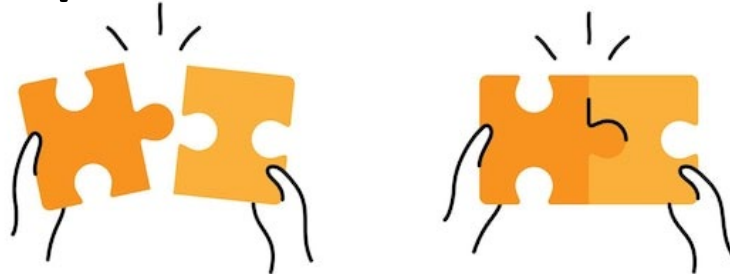
Upgrading an Existing EMS

- ▶ ISO transitions typically allow about three years.
 - ▶ Based on this precedent, the expected ISO 14001:2026 transition deadline is **April 2029**.
- ▶ *Confirm the final deadline with your certification body as guidance develops.*



Aligning an Unregistered EMS

- ▶ Embed checks into operator standard work
- ▶ Utilize shift-changover discussions to build the habit of discussing environmental / EMS
- ▶ Stop maintaining separate trackers



Transition to ISO 14001:2026

- ▶ What are the Steps to Transition from ISO 14001:2015 to ISO 14001:2026?
- ▶ The upgrade tasks or transition checklist should include:
 - ▶ Purchase and/or review of the ISO 14001:2026 standard.
 - ▶ Conduct a gap analysis to new or changed requirements. Establish action items, with responsibility and timelines to close any gaps.



Upgrading an Existing EMS: Gap Analysis

- ▶ Conducting a Gap Analysis
 - ▶ Compare the current EMS against each ISO 14001:2026 requirement
 - ▶ Document review, interviews and process observation
 - ▶ Record what conforms and what is missing
 - ▶ Assign an action needed to close each gap.



Transition to ISO 14001:2026

- ▶ The upgrade tasks or transition checklist should include:
 - ▶ Train managers and staff on new requirements.
 - ▶ Update references from ISO 14001:2015 to ISO 14001:2026.
 - ▶ Complete an internal audit and close findings; use qualified external support if needed.



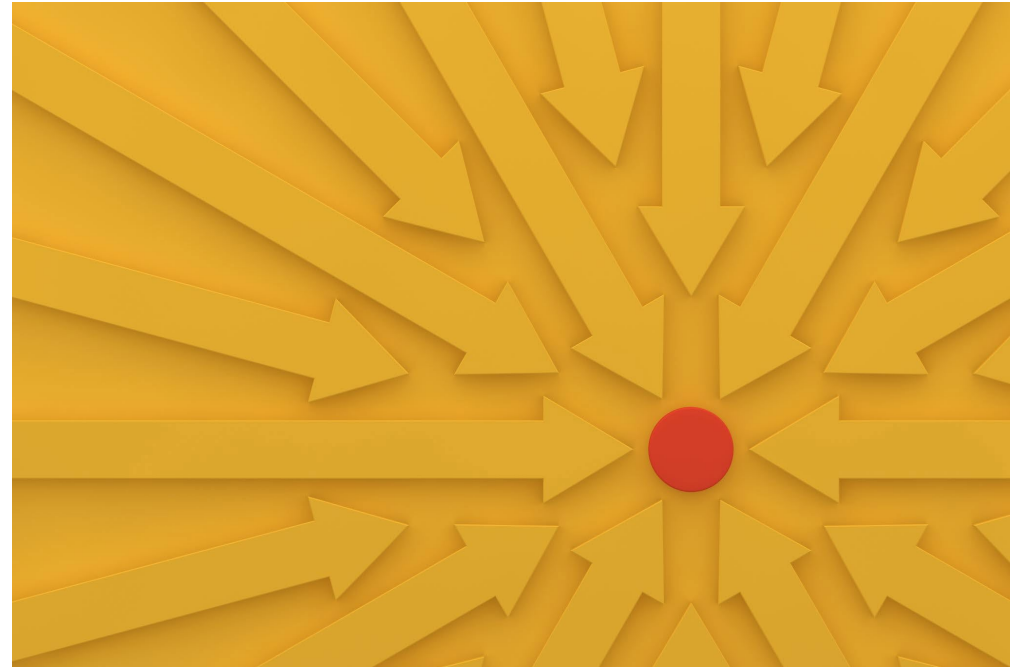
Transition to ISO 14001:2026

- ▶ The upgrade tasks or transition checklist should include:
 - ▶ Conduct a management review covering the changes to the standard, impact of the changes, audit results, and readiness to meet the 2026 requirements.
 - ▶ *Work with your certification body to determine the best upgrade timing.*



Upgrading an Existing EMS: High-Risk

- ▶ Identifying High-Risk Areas For Your Facility based on the “Key Changes”
 - ▶ Consider previous audit findings
 - ▶ “Walk” the EMS process
 - ▶ Check compliance obligations
 - ▶ Test off-normal conditions
 - ▶ Compare evidence
 - ▶ Rank significance



Upgrading an Existing EMS: Rank Significance

- ▶ Determine priority by:
 - ▶ Impact on environmental compliance
 - ▶ Recurring EMS audit findings
 - ▶ Small wins vs. big lifts
 - ▶ Where does your facility have the most to gain?
 - ▶ How long will it take to implement changes?



Upgrading an Existing EMS: ISO Integration

- ▶ ISO 14001 overlaps with –
ISO 9001 (quality) and ISO 45001 (safety)
 - ▶ Clause 4 – Context
 - ▶ Identify organizational issues and interested-party needs.
 - ▶ Clause 5 – Leadership
 - ▶ Demonstrate leadership commitment and define roles, responsibilities, and policy.
 - ▶ Clause 6 – Planning
 - ▶ Identify risks and opportunities and plan appropriate actions.



Upgrading an Existing EMS: ISO Integration

- ▶ ISO 14001 overlaps with –
ISO 9001 (quality) and ISO 45001 (safety)
- ▶ Clause 7 – Support
 - ▶ Provide resources, ensure competence, manage communications, and control documented information.
- ▶ Clause 9 – Performance Evaluation
 - ▶ Monitor performance, conduct internal audits, and perform management reviews.
- ▶ Clause 10 – Improvement
 - ▶ Address nonconformities and implement corrective actions for continual improvement.



Upgrading an Existing EMS: ISO Integration



- ▶ Unify risk assessments:
 - ▶ Update your combined risk register
- ▶ Consolidate documentation:
 - ▶ Maintain a centralized digital system for shared procedures
- ▶ Align strategic objectives:
 - ▶ Link sustainability and environmental targets with existing quality and worker safety goals
- ▶ Conduct joint internal audits:
 - ▶ Evaluate quality, safety and environmental processes simultaneously.



Workshop: Gap Analysis

Workshop: Gap Analysis

- ▶ Background:
- ▶ An industrial manufacturing facility has an outdoor, bulk chemical storage yard featuring secondary containment dikes.
- ▶ Water is critical to their daily process, and wastewater is treated on-site before discharge to the local municipal sewer system.



Workshop: Gap Analysis

- ▶ Emergency Preparedness for Chemical Storage (ISO 14001:2015 baseline):
- ▶ The EMS defines controls for the outdoor bulk chemical storage yard.
- ▶ Weekly inspections verify secondary-containment integrity and ensure rainwater is managed before release.
- ▶ Routine spill drills test procedures and maintain personnel readiness.



Workshop: Gap Analysis

- ▶ Water Use Monitoring and Objectives (ISO 14001:2015 baseline):
- ▶ Water use is a significant environmental aspect of manufacturing.
- ▶ Daily consumption of water by production line against annual water-intensity targets, enabling rapid detection of abnormal use and corrective action.



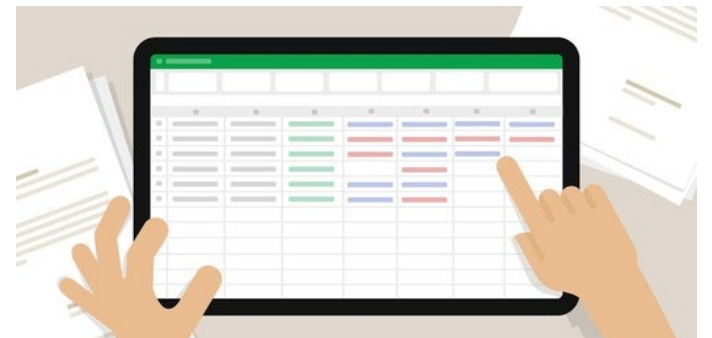
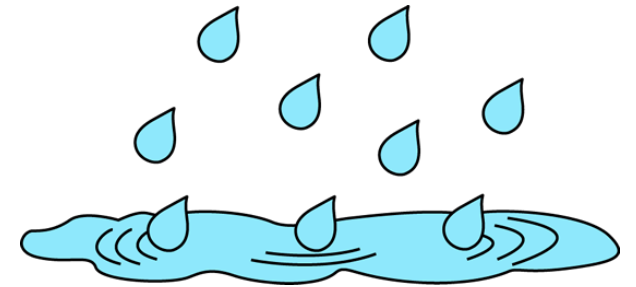
Workshop: Gap Analysis

- ▶ Wastewater Compliance Monitoring (ISO 14001:2015 baseline):
- ▶ Strict sampling and analysis schedules are followed for the on-site wastewater treatment plant.
- ▶ Before discharge to the municipal sewer, effluent is tested for pH, total suspended solids, and specified chemicals.
- ▶ Results confirm compliance with permit limits.



Workshop: Gap Analysis

- ▶ Current State (ISO 14001:2015 baseline):
- ▶ Key Takeaway:
 - ▶ The current baseline relies heavily on consistent monitoring, preventive maintenance of physical controls like containment dikes and strict adherence to permit requirements to manage the most significant environmental impacts.

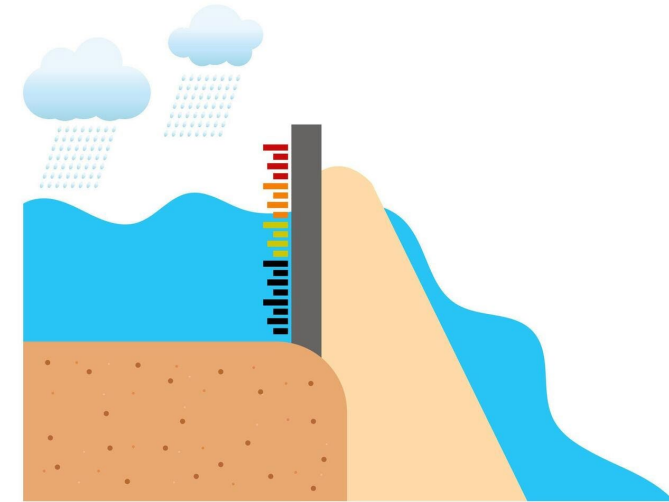


Workshop: Gap Analysis

- ▶ Gap Analysis against ISO 14001:2026
- ▶ Using what we know about the 2026 update, what current practices may fall short? Consider our Key Changes:
 - ▶ Life Cycle Perspective
 - ▶ Internal Audit
 - ▶ Climate Change Integration
 - ▶ Management Review
 - ▶ Change Management
 - ▶ Continual Improvement

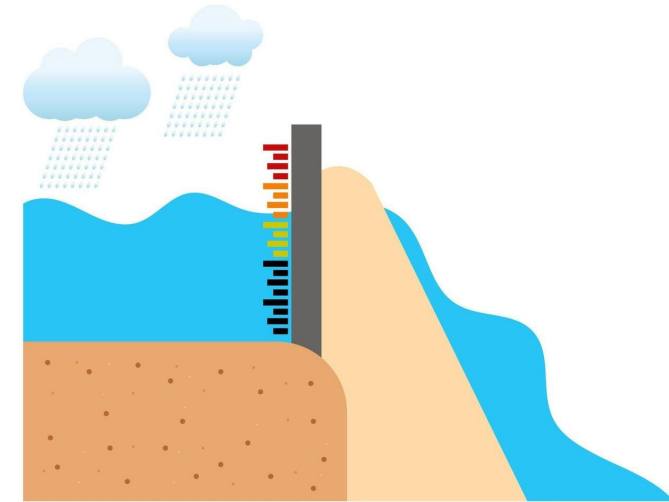
Workshop: Gap Analysis

- ▶ Emergency Preparedness for Chemical Storage (ISO 14001:2015 baseline):
- ▶ **ISO 14001:2026 Standard Requirement:** Clauses 4.1 & 4.2 require organizations to formally determine whether climate change is a relevant issue. The revised standard places greater emphasis on natural resource availability and physical environmental changes.
- ▶ **Existing Facility Practice (Baseline):** The bulk chemical storage yard features secondary containment dikes. EMS procedures require weekly visual inspections of these dikes and the manual draining of accumulated rainwater.



Workshop: Gap Analysis

- ▶ Emergency Preparedness for Chemical Storage (ISO 14001:2015 baseline):
- ▶ **Identified Gap:** The current baseline rain-accumulation and dike-integrity risk assessments do not account for physical climate change impacts. The local weather profile has experienced more frequent, intense storm events, meaning historical average rainfall calculations for dike containment capacity may be insufficient.
- ▶  **Corrective Action / Recommendation:** Update the facility risk register to formally include "extreme weather/localized flooding" as a high-priority threat. Recalculate secondary containment capacity based on projected "worst-case" climate storm models.



Workshop: Gap Analysis

- ▶ Water Use Monitoring and Objectives (ISO 14001:2015 baseline):
- ▶ **ISO 14001:2026 Standard Requirement:** Strengthened emphasis on utilizing a life cycle perspective during the environmental aspects process. Operational controls must extend from simple "outsourced processes" to "externally provided processes, products, and services."
- ▶ **Existing Facility Practice (Baseline):** Water is critical to daily operations. The facility tracks daily water consumption against annual production-line water intensity targets.



Workshop: Gap Analysis

- ▶ Water Use Monitoring and Objectives (ISO 14001:2015 baseline):
- ▶ **Identified Gap:** The water baseline only monitors internal consumption and does not evaluate external risks. There is no assessment of regional water stress, drought vulnerability, or the environmental practices of the external utility supplying our water.
- ▶ **💡 Corrective Action / Recommendation:** Expand the water monitoring procedure to incorporate a life cycle perspective. Perform a water-stress vulnerability assessment on the local municipality's supply and work with critical chemical suppliers to determine the water intensity of "externally provided" raw materials.



Workshop: Gap Analysis

- ▶ Wastewater Compliance Monitoring (ISO 14001:2015 baseline):
- ▶ **ISO 14001:2026 Standard Requirement:** Introduces explicit, separate requirements for the systematic planning and management of organizational and operational changes.
- ▶ **Existing Facility Practice (Baseline):** Wastewater is treated on-site and monitored for pH, total suspended solids, and chemical parameters before discharge to the municipal sewer system.



Workshop: Gap Analysis

- ▶ **Wastewater Compliance Monitoring** (ISO 14001:2015 baseline):
- ▶ **Identified Gap:** While our lab conducts sampling and analysis prior to discharge, we lack a formal "Management of Change" (MoC) protocol specifically integrated into our wastewater operations. If production processes change, or if the municipality modifies local limits, there is no standardized EMS gating process to evaluate wastewater compliance before those operational changes occur.
- ▶  **Corrective Action / Recommendation:** Design and implement a formal EMS Management of Change (MoC) checklist. The checklist must be completed and approved by leadership before any chemical formulation changes, production increases, or wastewater treatment upgrades are finalized.



Workshop: Gap Analysis

▶ Recommended Actions

- ▶ Update Context and Risk Registers (Clauses 4.1 & 4.2):
 - ▶ Formally document the climate and water-scarcity risk assessments for our facility
- ▶ Incorporate Life Cycle & Change Management:
 - ▶ Update operational control procedures to reflect the standard's new focus on "externally provided" items and establish a documented procedure for managing physical or regulatory changes to our on-site wastewater processes

Workshop: Gap Analysis

▶ Key Takeaway:

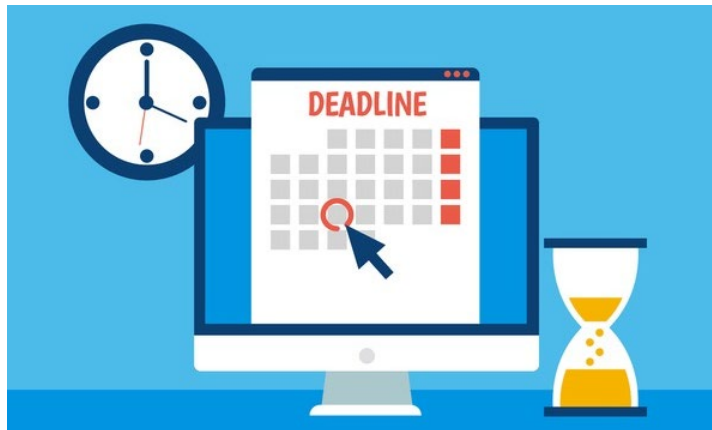
- ▶ ISO 14001:2026 does not require an administrative overhaul, but it mandates that we view our containment, water resources, and wastewater compliance through the lens of climate change, external supply chain dependencies, and broader environmental trends



Conclusion

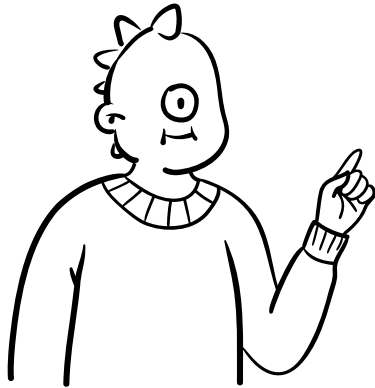
Conclusion

- ▶ The ISO 14001 standard has been updated to keep pace with evolving environmental challenges with the release of ISO 14001:2026, which should be integrated to ISO facilities by 2029.
- ▶ Key changes include impacts to lifecycle perspective, climate change integration, change management, internal audits, management review, and continual improvement.



For Next Time...

Please fill out this survey that will also be sent shortly after this meeting. Let us know how we did, and what you want to hear next time. We really do care!





Questions??

Christine Mayo
crmayo@burnsmcd.com

Jess Nicholson
jbnicholson@burnsmcd.com

