How to Successfully Perform a Self-Audit of Your SSMP

RMC
Water and Environment

Presenter
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Innovative Solutions for
Water and the Environment

Overview

- Introduction
  - Review WDR SSMP Audit requirement
- Continuous Improvement
- SSMP Audit Guidance
- Presentation Summary
- Questions/Discussion

Introduction

What is the purpose of the WDR and SSMP?

- SSMP Goal
  - Plan and schedule to properly operate and maintain all parts of sewer system

- Ultimate purpose
  - Reduce and prevent SSOs
  - Mitigate SSOs that do occur

WDR Requirement – SSMP Program Audits

Analysis of WDR Section D.13.x (SSMP Audits)

WDR Requirement – SSMP Program Audits

"As part of the SSMP, the Enrollee shall conduct periodic audits, <u>appropriate to the size of the system and the number of SSOs.</u>"

- Larger size = more in depth audit = more inquiry = more detail
- More SSOs = more in depth audit = more inquiry = more detail

WDR Requirement – SSMP Program Audits

Section D.13.x

"At a <u>minimum</u>, these audits must occur every two years and a report must be prepared and kept on file."

- Minimum of two years

- Implies more than every two years if SSO number and volume is an issue

  - What level of SSO performance is an issue?

WDR Requirement – SSMP Program Audits

Section D.13.x

"This audit shall focus on <u>evaluating the effectiveness</u> of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including <u>identification of any deficiencies in the SSMP and steps to correct them</u>."

- Simple "Yes/No" questionnaire not adequate
- Describes a Plan-Do-Check-Act process

SSMP Audit – Opportunity or Liability?

OPPORTUNITY

- Means to identify opportunities for improvement
- Find problems and correct before regulators or 3rd parties
- Improve performance
- Additional tool to justify funding needs

LIABILITY

- Potential for results to be used against agency?

Obstacles to Effective SSMP Audits

- Creators and owners of SSMP may not want to identify issues and deficiencies
  - Creates additional workload on top of demanding job
- Little or no support for implementation
- Self audits viewed as task rather than opportunity
- Agencies have differing challenges
  - Funding, skills, enforcement environment
- Organizations not always focused on SSO prevention or reduction

Continuous Improvement

GWDR is Based on Continuous Improvement

Adjust

Plan

Monitor

Do
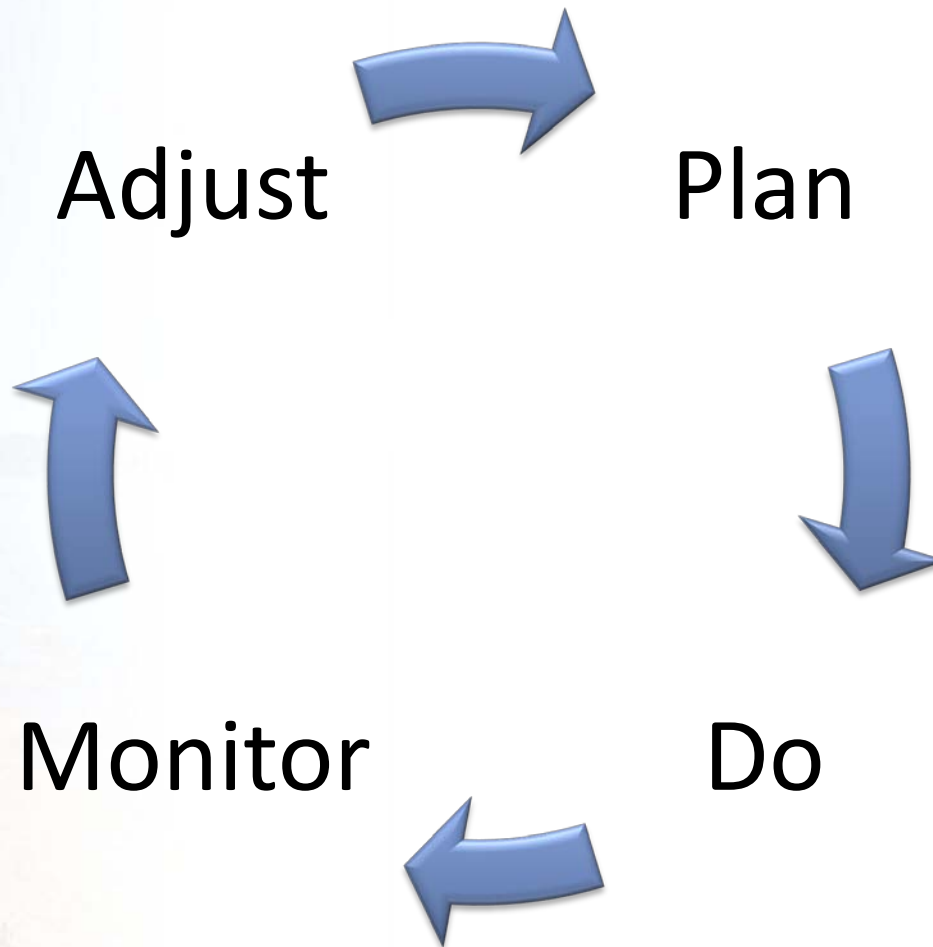
GWDR is Based on Continuous Improvement

Modify Programs, Consider New Programs

Set Goals and Develop Programs

Adjust

Plan

Monitor

Do

Measure Effectiveness

Implement Programs and Activities

GWDR is Based on Continuous Improvement

GWDR is Based on Continuous Improvement

- Monitoring, Measurement, and Program Modifications
  - Identify and track key performance indicators (KPIs)
  - Use KPIs to identify program modifications
  - Update SSMP every 5 years
- SSMP Program Audit
  - Bi-annual audits (minimum)
    - SSMP current and meets requirements
    - SSMP being followed

- These Elements Complement Each Other

GWDR is Based on Continuous Improvement

- Although based on continuous improvement, no guidance on audits given by SWRCB

- What examples/options are available?

Options for SSMP Audits

Audit/Evaluation Process References

- Audit/Assessment Checklists
  - BACWA SSMP Audit Form (Region 2) with SSO Report Summary
  - FSSD SSMP Audit Form – Distributed via BACWA mail list
  - SWRCB Pre-Inspection Questionnaire
- Audit Process Guidance
  - EMS Handbook for Wastewater Utilities – Section 3

Options for SSMP Audits

Review Audit/Assessment Checklists

Options for SSMP Audits

EMS Handbook for Wastewater Utilities – Section 3

EMS Handbook for Wastewater Utilities

Section 3: EMS Internal Auditing

Once your organization has established its EMS, verify its effectiveness. The process of reviewing and verifying your EMS through an internal audit is critical and key to improving your system.

An EMS internal audit is a tool that your wastewater facility will use periodically to identify where things are working well and where improvements are needed. This information will help you assess how well your EMS is performing. The internal audit is a documented review of whether your organization is doing what it said it would do to manage its environmental issues and whether it is doing so effectively. An EMS internal audit is conducted by your organization's employees to determine your conformance with the ISO 14001 Standard.

NOTE

An EMS external audit is an EMS review conducted by an independent, third-party to determine EMS conformance, typically as means to seek third-party certification (see Section 4 for more information on third-party certification).

Your EMS internal audit is a snapshot in time. It evaluates your documents, procedures, and records and reviews their implementation effectiveness and consistency. The audit looks at your facility's planned

Key Section Terms
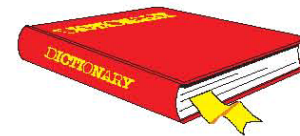
Audit Finding – A discovery of lack of conformance to the requirements of an (ISO 14001-based) EMS criteria/checklist. All audit findings must be resolved as found during the internal audit or through a formal EMS process of corrective and preventative action.

Corrective Actions – As a result of the audit findings, corrective action reports (CARs) are assigned to all nonconformances to correct EMS deficiencies as they occur. CARs track an audit finding, assigning tasks to be completed, responsibilities, and timeframes.

EMS Audit – A planned and documented review performed in accordance with a documented audit procedure for the purpose of verifying, through interview and an

EMS Handbook for Wastewater Utilities

- Defines an audit process
  - Step-by-step guide to internal auditing
- Defines audit terminology
  - Audit Finding
  - Major Nonconformance
  - Minor Nonconformance
  - Observation
  - Corrective Action

EMS Handbook for Wastewater Utilities

- EMS Handbook Internal Auditing Approach
  1. Select and train internal auditors
  2. Determine audit scope and frequency
  3. Prepare staff for audit
  4. Conduct desktop review
  5. Conduct internal audit
     1. Hold open meeting
     2. Audit for conformance
     3. Report audit findings
  6. Develop procedure for conducting audits
  7. Check audit procedure for GWDR conformance

Options for SSMP Audits

Applying the EMS Handbook Approach

Application of EMS Handbook Approach to WDR/SSMP Audits

- Used in 6 SSMP Audits

- Create Audit Team
  - One or more audit team members with knowledge covering all GWDR elements
  - Note-taker

- Kick-Off Meeting
  - Explain audit process and answer staff questions

- Perform Data Review
  - SSMP
  - SSO data
  - Ordinances
  - Design Standards
  - Other relevant documents

Data Review Goals

- Analyze SSMP versus actual performance, GWDR requirement, and expectations
  - Identify potential areas of strength
  - Identify potential deficiencies
    - Overt areas of non-compliance
    - Areas with issues that may lead to non-compliance
    - Areas where may not be following SSMP
    - Gaps in SSMP
- Becomes basis for inquiry during audit meetings

Organize Audit Interviews

- Length of interviews depends on complexity of organization

WDR Audit Interviewee

Date	WDR Provision Section (Section D)	Topics	Meeting Time
July 19	1, 6, 13 (i, ii, iii, and ix)	Goal Organization Legal Authority Monitoring, Measurement, and Program Modifications	2.5 hours
July 19	1, 6, 13.x	SSMP Program Audits	1 hour
July 19	1, 6, 11, 13.xi	Communication Program	1 hour
July 19	1, 3, 6, 13.vii	FOG Control Program	1.5 hours
July 20	1, 3, 4, 6, 7, 13.vi	Overflow Emergency Response Plan – O&M Response Activities	1.5 hours
July 20	1, 3, 6, 8, 13.iv	O&M Program – Mapping, Maintenance, and Training	3 hours
July 20	1, 5, 6, 13.vi	Overflow Emergency Response Plan – SSO Reporting and Notifications	1 hour
July 20	1, 6, 13.vi	Overflow Emergency Response Plan – Control Center role	0.5 hour

WDR Audit Interviewees (O...

Date	WDR Provision Section (Section D)	Topics	Meeting Time
July 21	1, 3, 6, 13.iv	O&M Program – Rehabilitation and Replacement Plan	2 hours
July 21	1, 6, 13.v	Design and Performance Provisions	1 hour
July 21	1, 3, 6, 10, 13.viii	System Evaluation and Capacity Assurance Plan	2 hours
July 21	1, 3, 6, 13.iv	O&M Program – System for Scheduling Maintenance	0.5 hour
July 21	1, 3, 6, 13.iv	O&M Program – Inspection and Repair Process	1 hour
August 10	1, 6, 9	Rate Structure, Accounting Mechanisms, and Auditing Procedures	1 hour
August 10	1, 3, 6, 13.iv	O&M Program – System for Scheduling Maintenance	1.5 hours

Define Findings Categories

Finding Category	Definition
Strength and Accomplishment	Areas where SSMP requirements and organizational goals met or exceeded
Non-Compliance	Violations of WDR/SSMP requirements
Major Non-Conformance	Moderate to high risk that a process or outcome will result in WDR non-compliance or in not meeting accepted practices, prescribed rules or regulations, or specific standards
Minor Non-Conformance	Similar to Major Non-Conformance with low risk
Opportunities for Improvement	Opportunity for greater efficiency and process streamlining

Audit Interview Format

- Brief purpose of meeting

- Review GWDR Provision/Element wording

  - Potential discussion of interpretation

- Review SSMP documentation

- Walk through data review findings and questions

  - Questions "key" findings until process breakdown understood

  - Question from different angles

    - If question not understood, ask a different way

Keep Focus on Ultimate Goal

- GWDR compliance

- Focus is on improving effectiveness
    - Improvement of collection system performance
    - Process improvement
    - Relate back to how processes can impact SSO frequency and volume

- Process should be is data driven

- Incorporate knowledge of:
    - Regulatory expectations
    - Best practices

Documentation of Results

- Document strengths and implementation accomplishments
  - Keep doing what is done well
- Document deficiencies
  - Documented by finding type
    - Compliance with GWDR?
    - Doing what SSMP says?
    - Areas where improvements will improve effectiveness?

Documentation of Results

- Corrective actions identified for each deficiency
  - Careful with documentation of corrective action
  - Reasonable expectations for improvement
    - Think continuous improvement or evolution
    - Smaller incremental steps
      - Actions that can/will be implemented before next audit
- Document management system opportunities in draft audit report
  - Not included in final audit report
- Include narrative discussing effectiveness of SSMP implementation

Audit Value Depends on Auditors and Organization

- What makes a high value audit?
  - Auditor(s) knowledgeable in each WDR Provision/SSMP Element
  - Objectivity
  - Willingness of organization to:
    - Inquire
    - Seek answers
    - Reveal
- Better to be aware of problems before regulatory audit

Audit Ideas

- Use first audit to define protocols/procedure

- Bring someone in from outside
  - Other agency
  - Retired collection system manager
  - Subject matter expert

- Audit one area every month or every other month

- Track corrective actions and create accountability

- Link monitoring and measurement to audit process
  - Could set performance triggers for audit

Presentation Summary

- GWDR is continuous improvement process

- Guidance not provided by SWRCB on SSMP audit process

- Examples and references exist
  - Simple "Yes/No" checklists expedient yet do not support insightful process

- Process should:
  - Be data driven
  - Identify compliance issues (current or potential)
  - Be focused on improving effectiveness and process improvements
  - Define types of findings and corrective actions
  - Build upon previous efforts

QUESTIONS?

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