

EMS-Specific Training of Internal Auditors

Standardizing a Large-scale Internal Auditing Program

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PennDOT's EMS

Strategic

Environmental

Management

Program

All Engineering Maintenance Districts
are seeking ISO 14001 registration

PennDOT SEMP Facts

- More than 5000 maintenance employees
- More than 400 maintenance facilities
- Five of eleven maintenance districts currently hold ISO registration
- Each district holds an independent certificate

History

- 2000-01 Department prepared Green Plan Policy, evaluates environmental aspects and impacts
- Fall 01 Phase 1, Pilot District implements SEMP
- Spring 02 Phase 2, four Districts begin implementation
- 12/02 Pilot District achieves registration

History

- Fall 03 Phase 3, remaining six Districts begin implementation
- Spring 04 Phase 2 Districts achieve registration
- Fall 05 Phase 3 Districts scheduled for registration audits

SEMP Focus Areas

Winter Maintenance



SEMP Focus Areas

Stockpiles and Facilities



SEMP Focus Areas

E&S Controls



ISO 14001 Internal Audit Requirement

ISO 14001-2004

4.5.5 Internal Audit

“The organization shall ensure that internal audits of the environmental management system are conducted at planned intervals...”

Audit Schedule

District registrations are on a six-month surveillance audit schedule.

As a result, most districts have implemented a bi-annual internal audit schedule completing each audit cycle one month before the registration surveillance.

Auditor Training Specifics

24-hour Internal Auditor training

- Delivered in six half-day sessions
- Auditing principles, audit skills, ISO elements

4-hour Lead Auditor training

- Delivered at the conclusion of session 6
- Audit management, report preparation

5-hour advanced Lead Auditor training

- Audit tools, auditing efficiently and effectively
- Applying audit experiences

Auditor Training Course Specifics

More than 200 internal auditors trained to date:

Non-supervisory (operators, mechanics, clerical)

Supervisory (foremen, mechanic supervisors)

Management (County Managers, Assistants)

Executive (District Administrators, Assistants)

More than 50 Lead Auditors trained to date

Four Challenges

Training consistency and specificity to SEMP focus areas

Training schedule flexibility

Training auditors from multiple levels of the organization

Maintain sufficient audit staffing to perform biannual audits in all counties

Consistency and Specificity

Issue:

Initial auditor training was performed by different trainers using different training materials

Solution:

Standardize the training syllabus and utilize the standard materials for all classes

(Training Syllabus Handout)

Training Elements

ISO 14001 Standard elements

What the auditor checks

Four Phases of Audit

Audit Planning

Audit Execution

Audit Reporting

Corrective Action, Follow-up and Closeout

Training Elements

Audit Skills

Interview principles

Listening skills

Observation skills

Note taking, documentation

SEMP Audit Procedures

SEMP Corrective and Preventive Action Procedures

Training Elements

Exercises

Interviewing and listening

Note taking

Document and records review

Observing an operation

Practice Audits (8 hours)

Specificity

ISO standard review focuses on what the internal auditor checks for each element

Example:

Training, the auditor checks training records on the personnel interviewed. The specific training records are those related to SEMP awareness and training specific to the three SEMP Focus Areas

Specificity

Four Phases of Audit identifies the audit process as it pertains to SEMP

Example:

Corrective Action, follow-up and closeout, the trainee is taught the use of SEMP-specific Corrective/Preventive Action report forms

Specificity

Audit skills training utilizes practice exercises specific to the types of information that the auditor will encounter.

Example:

Records review, the trainee reviews actual SEMP records as an exercise.

Specificity

SEMP procedure review all trainees receive and review the Department-wide SEMP Audit and Corrective/Preventive Action procedures

Training Program Flexibility

Issue:

The wide geographical area requires training be both cost-effective and time-efficient for the trainees

Some trainees are union, overtime and breaks
Personnel schedules may not allow attendance at all classes

Training Program Flexibility

Solution:

Multiple training locations

Limit class time to half-days

Standardized classes allow trainees to take
make-up classes at other locations

Training Program Flexibility

Multiple Training Locations

We selected centralized training locations to minimize travel time (no more than two hours)

Four days per week, two locations per week

Three week schedule for completion

Training Program Flexibility

Limit class time to half-day training

Half-day classes allow for up to two hour commute and still be within normal workday hours

Working lunches provided to allow additional class discussion, minimize disruption, and late restart.

Training Program Flexibility

Standardized classes

Allow for trainees missing a class to take the
makeup class in another location

Final make-up course in Central location were
full days, attendees attend only the
specific four-hour segment missed

(Example Schedule)

Multiple Level Training

Issue:

Keeping training interesting without being overly demanding or overly simple

Solution:

Develop a modular training approach, delivering concepts and basics with additional levels of detail available

Multiple Level Training

Presentation and class lectures

Deliver core materials and concepts

Additional levels of detail are provided in
handouts and
discussion
topics



Multiple Level Training

Exercises

Use “Real world” examples to demonstrate how audits relate to work tasks

Use “abstract” examples to demonstrate audit concepts



Multiple Level Training

Exams

An “open-book” quiz was given at the end of each training session and reviewed at the beginning of the next session

The main purpose of the quiz was to reinforce the concepts, a secondary purpose was to build trainee confidence

Multiple Level Training

Practice Audits

“Real World” practice conducted as a full audit experience at an actual facility

Practice audit from entrance conference through exit conference

Trainees apply the concepts learned to auditing areas of their work expertise

Multiple Level Training

Practice Audits

Introduce “real world” pressures of personnel deployment/assignments, time restrictions, interviews, records review, assembling information, and preparing findings.

Multiple Level Training



Combine training with
work knowledge

Practice Audits



Maintaining Audit Staffing

Issue:

Maintaining adequate audit staffing levels to perform biannual internal audits of PennDOT facilities in 67 counties

Solution:

Continual access to internal audit training for each District, development of new Lead Auditors

Maintaining Audit Staffing

Internal auditor training is offered as a continuing training program

Districts access training utilizing existing District SEMP funds

Cost-effectiveness enhanced by several Districts sharing training costs at a central location

Maintaining Audit Staffing

Elevate internal auditors to Lead Auditors
through an advanced training program and
actual audit experience

What have we learned?

Internal auditor training is a serious
commitment of organizational resources

Specific training related to the EMS is more
effective than generic audit training to the
standard

What have we learned?

Using a modular training approach can deliver detailed information without overwhelming the individual trainees

It is possible to successfully train personnel from multiple organizational levels at the same time

What have we learned?

Using varied training approaches is better suited to classes consisting of personnel from varied backgrounds

Personnel from any organizational level can be effective auditors

For Information

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