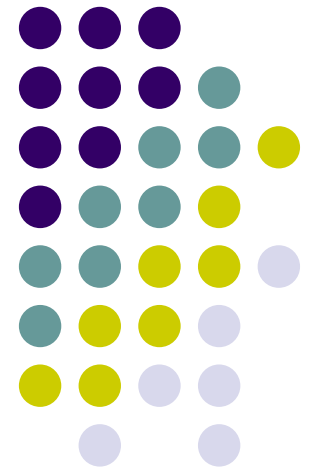


EMS Fundamentals

An Introduction to the EMS
Process Roadmap

AASHTO EMS Workshop



Agenda

- Basic EMS Concepts
 - (Henry Balikov)
- The EMS Process Roadmap
 - (Henry Balikov)
- Using the Process Roadmap
 - (Henry Balikov and Dave Soltis)



Basic EMS Concepts



- What is an EMS?
 - Management – the means to accomplish an end.
 - System – organized or established procedure; organized set of doctrines, ideas, principles.

Environmental Management System

The organizational structure and associated responsibilities and procedures to integrate environmental considerations and objectives into ongoing management decision-making processes and operations.

Concepts (cont'd)



- An EMS -
 - Provides a structured process to identify and address needs and opportunities.
 - Ensures consistency in approach and resulting actions.
 - Is a process that can be applied to units large and small, and across the range of DOT activities.

An EMS Key

An EMS shouldn't be considered as the tools and processes (e.g., information system) to implement an EMS – the EMS is the Process to develop and use these tools and processes.

Concepts (cont'd)



- An EMS -
 - By its nature is “strategic” looking beyond immediate needs and goals
 - Provides the structure to set measures so that performance can be improved.
 - Is based on a quality improvement process that relates to customer / stakeholder satisfaction.

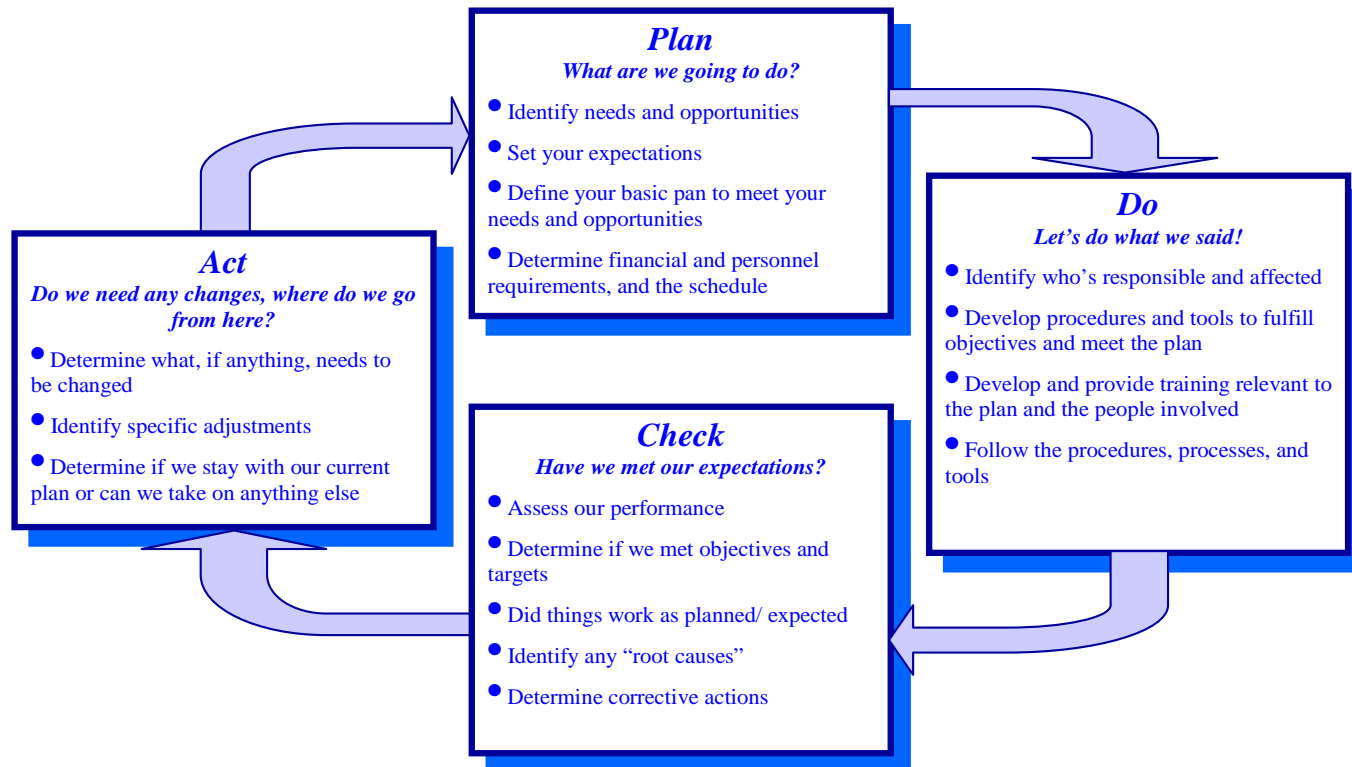
An EMS Key

This is a system that depends on involving people.
It needs leadership and a means to capture institutional knowledge.
It succeeds by making its functions transparent and streamlined.



Concepts (cont'd)

- The Plan – Do – Check – Act management approach provides a foundation.





Concepts (cont'd)

- A DOT is organized using Plan – Do – Check – Act, for example:
 - Plan – planning, preliminary engineering
 - Do – design, construction, operations, maintenance
 - Check – compliance assessment, project review, performance measurement
 - Act – strategic planning



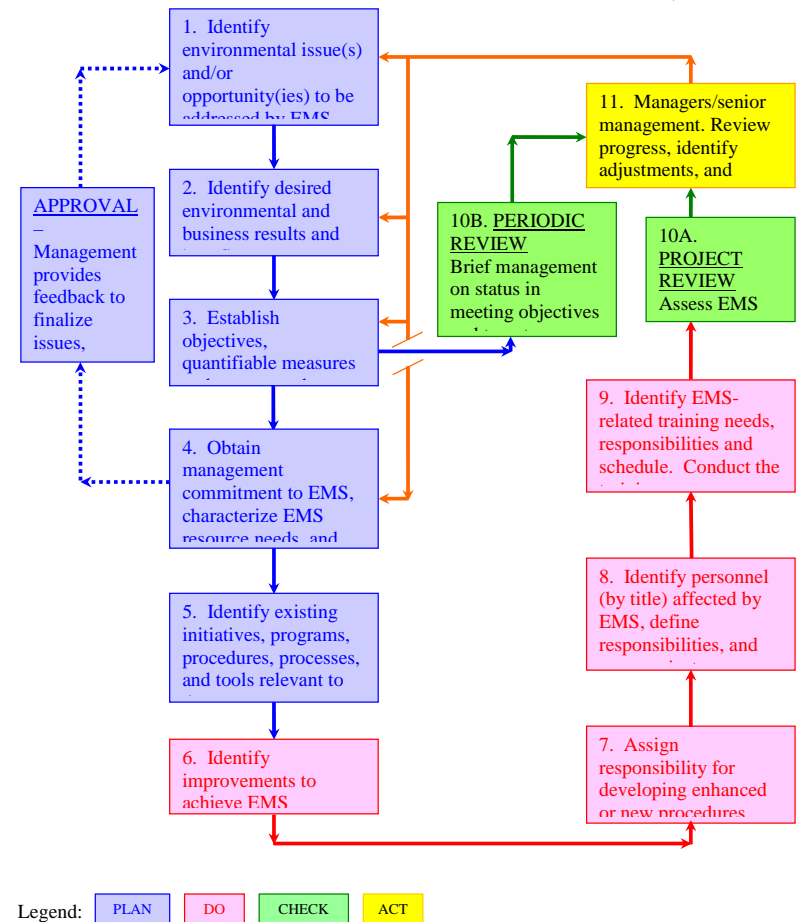
Concepts (cont'd)

- Specific DOT functions and activities also follow this approach, for example in maintenance:
 - Plan – determine needs, set budget, set objectives
 - Do – assign responsibilities, set schedule, perform work
 - Check – assess compliance, determine if work met needs/expectations
 - Act – revise priorities as needed



EMS Process Roadmap

- We have a roadmap that applies Plan – Do – Check – Act to a DOT EMS
 - This roadmap is provided in the Guide
 - Today’s workshops will show how to apply the roadmap



Using the EMS Process Roadmap



- Let's briefly describe each step
 - Additional details are provided in the Guide, example templates, and workshop instructions

1. Identify environmental issue(s) and/or opportunity(ies) to be addressed by EMS.

Gather and prioritize environmental information and select focus:

- List associated environmental issues
- List relevant environmental opportunities
- Rank/prioritize the issues and opportunities (IOs)
- Identify the specific aspects and IOs (using the ranking information from above) to be addressed by the EMS and BRIEFLY document your rationale (for presentation to the group).
- *PLEASE NOTE:* Keep your EMS effort manageable, you don't need to fix everything at once.



Using the Roadmap (cont'd)

- Each step (cont'd)

2. Identify desired environmental and business results and benefits.

Identify results.

- List associated environmental benefits that can be measured (to the extent practical)
- Identify associated business benefits

PLEASE NOTE: EMS implementation and acceptance can be facilitated through the use of existing tracking and measurement systems/processes, and existing data and measures. Identify systems, measures, and data in your organizations that would be applicable.



Using the Roadmap (cont'd)

- Each step (cont'd)

3. Establish objectives, quantifiable measures and targets, and associated milestones.

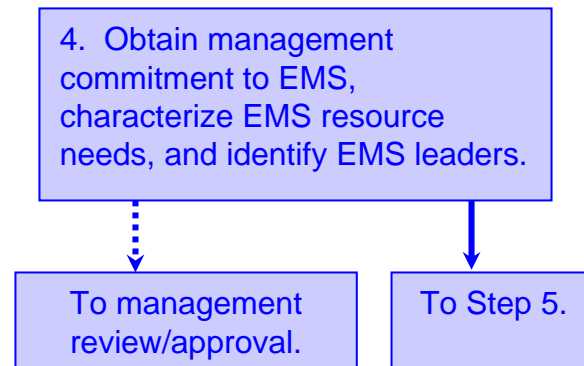
Set measures for performance and success.

- Identify actions to address the selected issues, opportunities, and activity, operation, or facility and to realize the benefit(s) identified in step 2.
- Keep the list of actions short
- Identify objectives that provide a goal/focus for each action.
- Establish a performance measure(s) for each objective.
- Establish a target(s) for each measure.
- Establish a milestone(s) for meeting each target.
- Identify the position(s) who would be responsible for taking the action and meeting the target(s)



Using the Roadmap (cont'd)

- Each step (cont'd)



Prepare the EMS Business Case.

- Estimate the resources (personnel, financial, contractors, etc.) needed to implement the actions and meet the targets.
- If the resource needs span 2 or more planning/business cycles estimate the relative splits (% of total or estimate for each cycle).
- Summarize the expected benefits, when they would be realized, and for how long.
- Identify the position who will manage the EMS effort and the positions who will play key roles.
- Identify the senior management position who will serve as the leader (i.e., management “champion”).



Using the Roadmap (cont'd)

- Each step (cont'd)

APPROVAL –
Management provides feedback to finalize issues, opportunities, and expected results.

Feedback/review to Steps 1, 2, 3, and/or 4.

Obtain management approval and commitment for EMS.

- Present the Business Case (see Step 4) to senior management.
- Solicit management input on EMS:
- Incorporate/address management comments in EMS plans.
- Obtain specific, public commitment of management commitment to EMS and planned efforts.
- Publicize management commitment to EMS to all potentially involved employees. Consider possibility of and schedule for announcing initial commitment to the public.

PLEASE NOTE: Management direction and commitment is critical to the success of EMS development and implementation efforts. If DOT management provided the initial directive to pursue EMS development, this Approval step may not be as structured and detailed as shown or described. However, Steps 1 through 4 should still be followed to provide the focus and structure for an EMS and to help ensure EMS effectiveness and success.



Using the Roadmap (cont'd)

- Each step (cont'd)

5. Identify existing initiatives, programs, procedures, processes, and tools relevant to the EMS.

Using the information developed in Step 4 and the issues, opportunities, aspects, actions, objectives, and targets developed in Steps 2 and 3:

•List the initiatives, etc. that could be used or adapted for use.

PLEASE NOTE: This effort is intended to focus on WHAT IS ALREADY IN PLACE that can be used or adapted for use in an EMS effort.



Using the Roadmap (cont'd)

- Each step (cont'd)

6. Identify improvements to achieve EMS objectives

Continue the analysis begun in Step 5, identify gaps/needs for procedures, processes, and tools.

- Identify the desired procedures, processes, and tools that will:
 - Address the issues and opportunities of the specific aspects selected in Step 1,
 - Achieve the environmental and business benefits identified in Step 2,
 - Fulfill the actions, objectives, and targets established in Step 3, and
 - Meet the commitments and expectations of management determined in Step 4.
- Keep in mind the EMS attributes

PLEASE NOTE: This Step, in conjunction with Step 5, provides the means to move the DOT from “what is in place” to “what should be used.”



Using the Roadmap (cont'd)

- Each step (cont'd)

7. Assign responsibility for developing enhanced or new procedures, processes, and tools.

Identify personnel for an EMS Development Team who will help in the development AND implementation of the EMS procedures, processes, and tools.

- Identify a Team leader (this may be the EMS Manager) who will coordinate Team activities and maintain the Team's focus on "results."
- The Team should be small enough to be manageable and meet routinely.
- Set a clear, agreed upon time table for Team efforts.
- The Team should represent all levels and units affected by the EMS.

PLEASE NOTE: The EMS Development Team can support identification of the desired EMS procedures, processes, and tools (see Step 6).



Using the Roadmap (cont'd)

- Each step (cont'd)

8. Identify personnel (by title) affected by EMS, define responsibilities, and communicate responsibilities.

The EMS Development Team identifies ALL personnel who would play a role in implementing, or following, the EMS procedures, processes, and tools.

- Develop BRIEF responsibility statements for identified personnel.
- The responsibility statements should be related to the actions required.
- Identify the means to communicate responsibilities.
- Establish a schedule for communicating responsibilities.
- Determine who will communicate the responsibilities.

PLEASE NOTE: Incorporate these statements of environmental responsibility into existing performance review/job description practices.

PLEASE NOTE: These activities may proceed concurrently with Steps 6 and 7.



Using the Roadmap (cont'd)

- Each step (cont'd)

9. Identify EMS-related training needs, responsibilities and schedule. Conduct the training.

The EMS Development Team develops a training program.

- Determine the training type and content that would best achieve implementation of the EMS procedures, processes, and tools.
- Determine the training schedule/frequency.
- Identify existing training materials, schedules, and/or programs.
- Identify the presenter(s) for the training.
- Develop the training materials.
- Present the training.



Using the Roadmap (cont'd)

- Each step (cont'd)

10A. PROJECT REVIEW
Assess EMS project performance.

10B. PERIODIC REVIEW
Brief management on status in meeting objectives and targets.

Monitor EMS progress and performance.

- The EMS Manager and EMS Development Team identify criteria and schedule that can be used to assess EMS progress and performance on an ongoing basis.
- Develop a progress summary report for senior management and present the report.
- Identify problems that may occur during EMS development and implementation and the means by which they could be overcome.
- The EMS Manager and Development Team identify criteria and develop a report format that will be used to assess overall success of the EMS project.
- Submit the project review report to senior management.



Using the Roadmap (cont'd)

- Each step (cont'd)

11. Managers/senior management.
Review progress, identify adjustments,
and confirm commitments.

Senior management review progress and performance and set course of action.

- The EMS Manager submits the progress report, reviews progress, and identifies any problems and suggested corrections.
- Management identify, commit to, and assign responsibility(ies) for next actions.
- The EMS Manager submits the project review report.
 - Identify opportunities/next steps.
 - Review how lessons learned to be incorporated in next actions.
 - Solicits management commitment to next actions.
- Management identify, commit to, and assign responsibility(ies) for next actions.