

Environmental Management Systems (EMS)

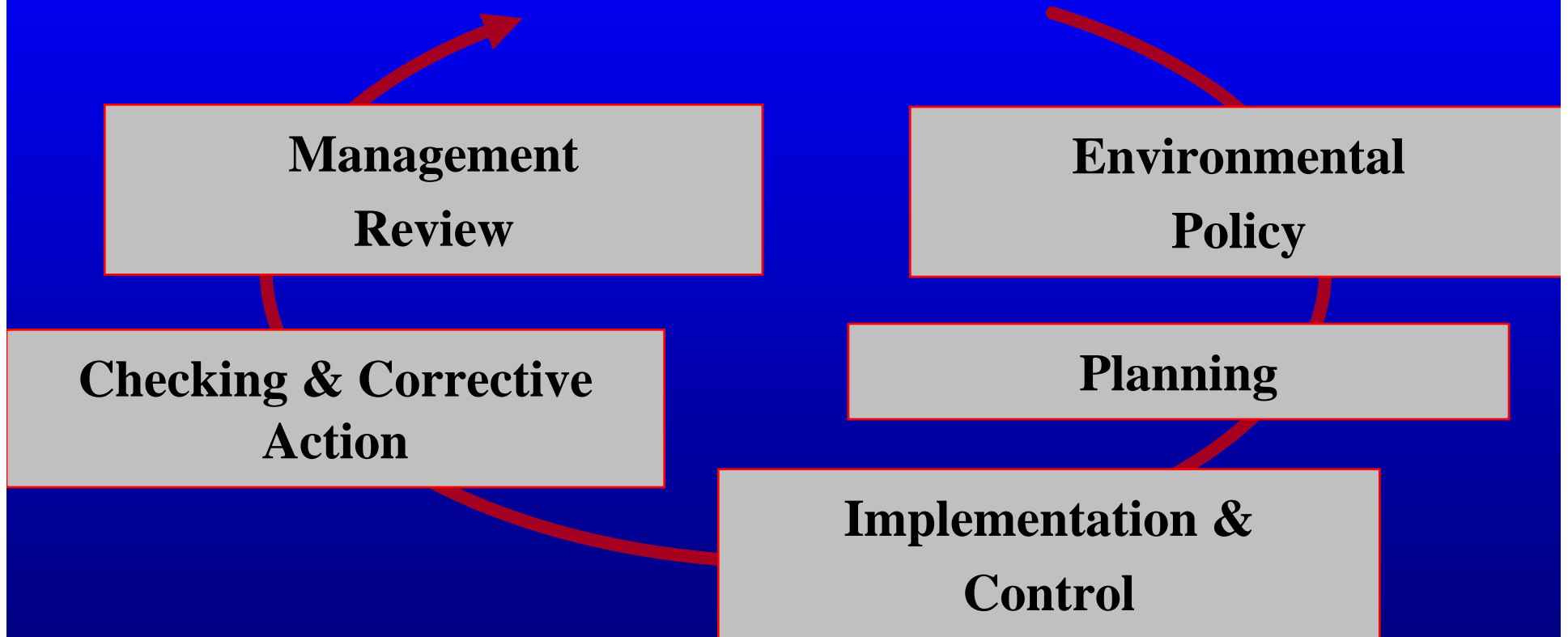
*And Why EMS Implementation is
Critical to Achieving Sustainability*

“ems” vs. “EMS”

- All organizations have some type of environmental management system regardless of what they do -
- For this discussion, the focus is a more formalized, recognized, and structured approach defined in the international EMS standard, ISO 14001

Plan Do Check Act

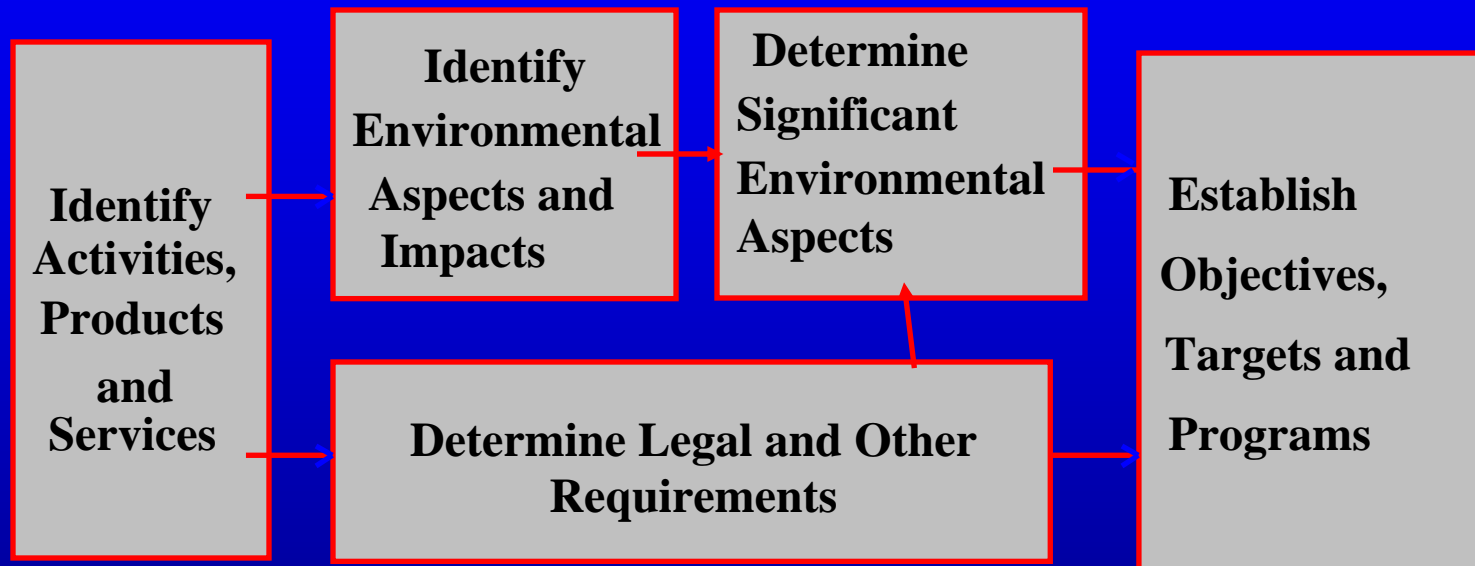
Continual Improvement



Policy

- Statement of an organization's intentions and principals in relation to its overall environmental performance

Planning



Environmental Aspects

- Establish, implement and maintain a procedure to identify environmental aspects of activities products and services that you *“can control and ...can influence”*

Legal and Other Requirements

- Establish, implement and maintain a procedure to identify legal requirements that apply to your facility's aspects
- Identify other requirements to which you “subscribe” e.g., Executive Orders, agency/bureau policies or voluntary practices

Objectives Targets

- Establish, implement and maintain documented environmental objectives and targets
- Consider “legal and other requirements”
- Consider significant aspects
- Reflect financial and technical limitations
- Reflect “interested parties”
- Reflect policy commitment and commitment to pollution prevention
- Results guide how you will measure progress

and Program(s)

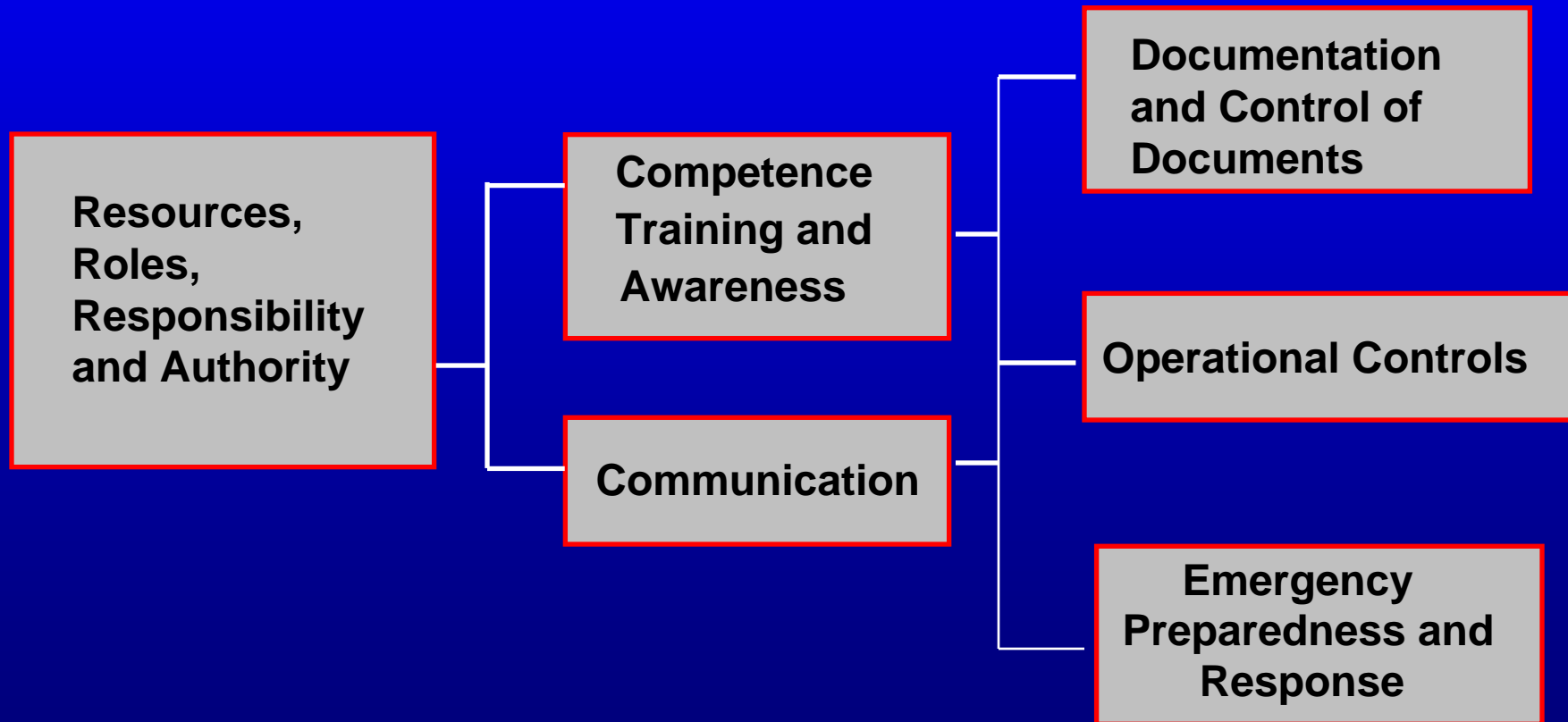
- Establish, implement and maintain a program to achieve objective and targets
- Assign responsibility
 - Function
 - Level
- Describe what is to be done, what will be measured, and what the time frame will be

Implementation and Control

Organization & Accountability

Capabilities & Communications

Controls



Resources, Roles, Responsibility and Authority

- Management provides resources to implement, maintain and improve the system
- Roles and responsibilities are defined, documented, communicated
- Management identifies Management Representative that is responsible for and has authority for
 - Managing EMS implementation
 - Reporting to top management on EMS progress

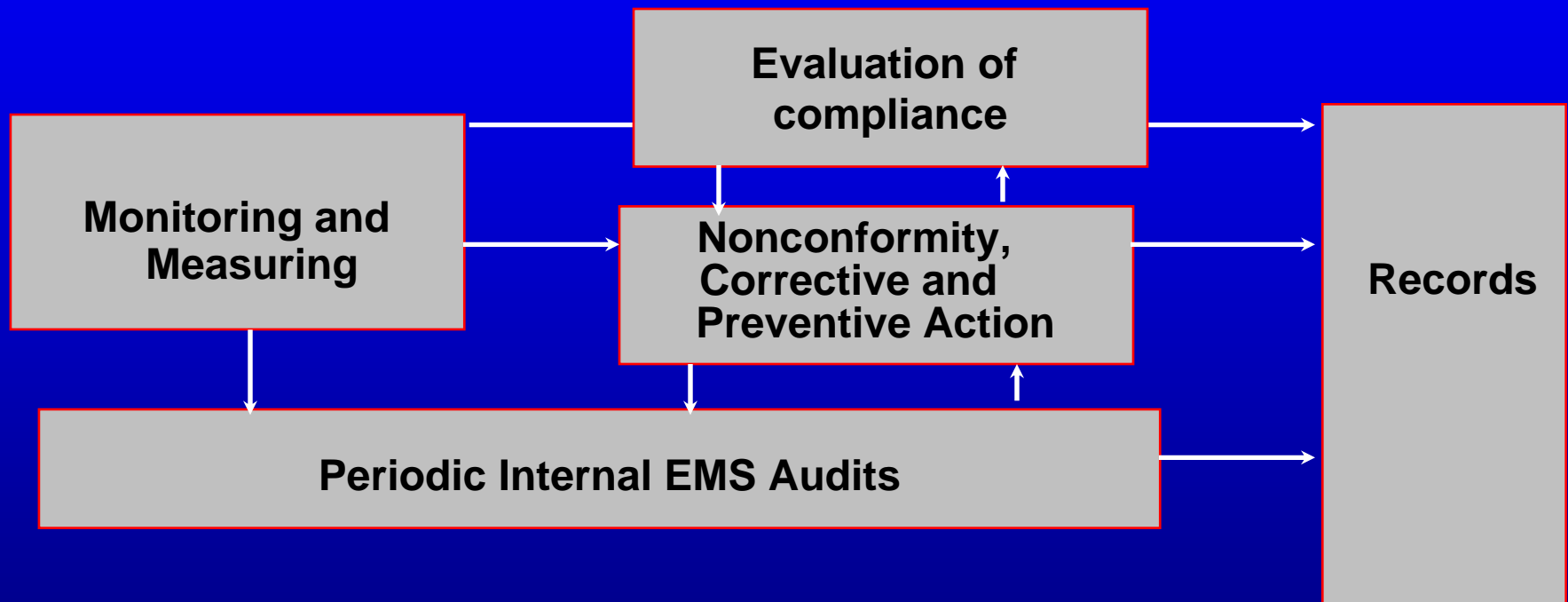
Competence, Training and Awareness

- Ensure competence training to
 - Regulatory requirements
 - Standard operating procedures
- Establish and maintain a procedure for training relevant to
 - EMS - awareness including policy
 - Relationship between activities and environmental impacts
- Includes those who perform tasks on behalf of the organization

Operational Control

- Identify operations and activities associated with significant environmental aspects
- Establish and maintain procedures for addressing activities that affect significant aspects to avoid deviations from policy and objectives and targets
- Considering goods and services, communicate procedures to suppliers, including contractors

Checking and Corrective Action



Monitoring and Measurement

- Establish, implement and maintain procedures to monitor and measure activities related to significant aspects
- Track performance, operational controls
- Conformity to objectives and targets
- Maintain and calibrate monitoring equipment

Evaluation of Compliance

- Establish, implement and maintain a procedure to periodically evaluate compliance with legal requirements
- Also evaluate compliance with “other requirements”
- Records are kept of the evaluations

Management Review

Take account of:

- audit findings
- progress records on objectives
- changes to facilities
- changes in activities, products or services
- changes in technology
- concerns of interested parties
- other relevant information



To Assess the

- suitability,
- adequacy, and
- effectiveness of the EMS

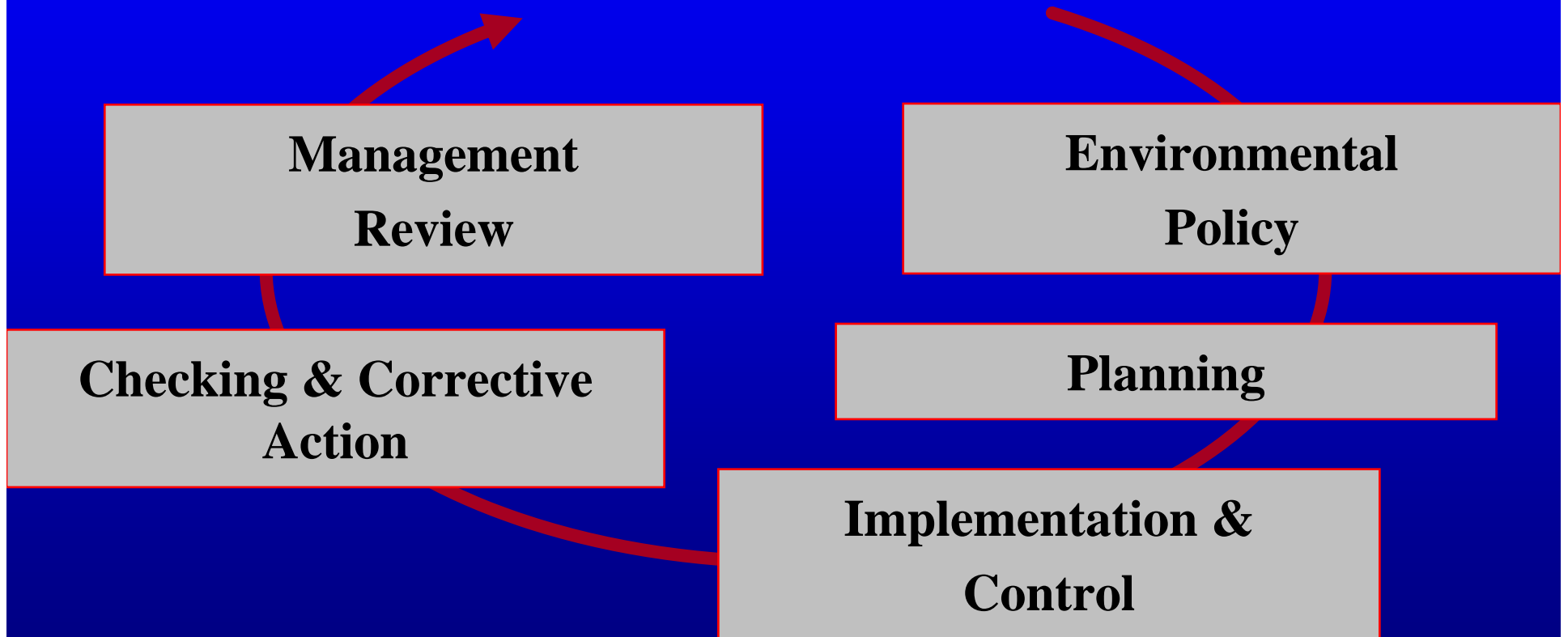


In order to determine the need for change and improvement to:

- the environmental policy
- the objectives and targets
- other elements of the EMS

Plan Do Check Act

Continual Improvement



Critical take aways!

- Look at entire footprint
- Focus on pollution prevention
- Strive for continual improvement

- **REMEMBER** – EMS is not stand alone program – it is the framework used to achieve organizational goals

What is sustainability?

- EO 13423 states: “sustainable” means to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations of Americans

What is sustainability?

- Being “just a bit better than the present” and “large scale efforts to radically improve the environmental, economic and social condition.”
- Continually working to shrink the environmental footprint of the organization while still achieving the mission of that organization.
- Federal leadership in concepts, strategies, tools, practices and approaches leading to environmental improvement both immediate and long-term

What is the policy – under EO 13423?

- It is the policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and **sustainable** manner.
- There is an assumption that pursuing sustainable practices will result in “sustainability.”

Sustainable Practices under EO 13423

Green Procurement/Acquisition

- Environmentally preferable products (e.g., Biobased, recycled materials, less energy, water, and toxic chemicals)

Solid Waste Management and Pollution Prevention (P2)

- Toxic/hazardous chemical reduction
- Recycling goals and metrics

Electronic Equipment Procurement, Use, and Disposal

- 95% must be EPEAT-registered
- Energy Star functions enabled

Water Consumption

- 16% reduction by FY 2015

Sustainable Building Design

- 15% meet “green facilities” criteria

Energy Intensity/Efficiency

- 30% total reduction by FY 2015

Renewable Energy

- At least 50% from solar, wind, geothermal, biofuels sources

Fleet Vehicles

- 2% petroleum reduction through FY 2015, increase non-petroleum based fuel by 10 % by FY 2015

Plug-In Hybrid (PIH) Vehicle Usage

- When reasonably available

**So how is a sustainable
practice addressed in an EMS?**

Where does this fit in an EMS?

Planning

- Activities, aspects, impacts analysis would identify all activities that relate to sustainable practices
- Significance determination would identify “significant aspect” based on EO requirement - a “legal and other requirement”
- Objectives and Targets would set goals based on sustainable practices
- A “plan” would have been developed to support the Objective and Target

Where does this fit in an EMS?

Implementation and Control

- Based on the plan, roles and responsibilities would be assigned – resources would be allocated
- Necessary training would happen based on proposed actions
- Documents would be developed outlining system elements
- Operational controls would be deployed to ensure actions are taken

Where does this fit in an EMS?

Checking and Corrective Action

- Activities identified in the plan would be measured/monitored using the metrics in the plan
- Progress towards objectives and targets monitored/measured
- Effectiveness of actions towards objectives would be determined
- Responsibility for dealing with non-conformances would be assigned
- Where non conformities exist they would be fixed and step taken to preclude further problems
- Records are created and maintained

Where does this fit in an EMS?

Management Review

- As part of the review of the EMS the objective for water conservation would be reviewed
 - Targets would be assessed
 - Activities would be reviewed
 - Updates would be proposed
- Management would decide on how to proceed with pursuit of the objective and the cycle would begin again

Likely Sustainable Practices in the Future

- Greenhouse gas emission reductions
- Additional energy efficiency requirements
- Increased use of renewable energy and siting of renewable energy sources at Federal facilities
- Increased “Green” buildings construction and operation
- Green meetings, conferences, and travel services
- More efficient fleet management
- And more

Summary

- A formal EMS reflects an accepted framework for managing and reducing the environmental footprint of your organization including sustainable practices
- Success comes from following the framework and being committed to implementation and maintenance

Use FedCenter! www.FedCenter.gov

The screenshot shows the FedCenter.gov website in a Windows Internet Explorer browser window. The browser's address bar displays "http://www.fedcenter.gov/". The website's header features the FedCenter logo and the text "FedCenter.gov". A navigation menu includes links for Home, What's New, Program Areas, Assistance, Events, Training, Opportunities, Members, and Help. A search bar is located on the left side of the page. The main content area is titled "Welcome to FedCenter" and includes a description of the site as the Federal government's home for environmental stewardship and compliance assistance information. Key sections include "In The News" with a "What's New on FedCenter" link, "Regulatory Watch", "EPA Enforcement Focus", and "Upcoming Events". A prominent box highlights the "2009 Federal Environmental Symposia", inviting the Federal community to attend the 8th Annual Federal Environmental Symposia, sponsored by the Office of the Federal Environmental Executive. The box specifies two conferences: Symposium West (June 2-4, 2009) and Symposium East (June 16-18, 2009). A registration link is provided. Another box below it announces the "ERRC Reporting Season Opens", stating that the 4th annual Electronics Reuse and Recycling Campaign (ERRC) is now underway, challenging Federal agencies to donate and recycle excess or surplus electronics through the ERRC covering activities from October 1, 2008, through September 30, 2009. The right sidebar contains "Announcements" with a list of recent news items, including "Clean Air Excellence Award Winners Announced" and "EPA to Oversee Cleanup of TVA Kingston Fossil Fuel Plant Release". The browser's taskbar at the bottom shows the Start button, several open applications (Microsoft PowerPoint, FedCenter - Home), and the system clock indicating 8:41 AM on May 13, 2009.