

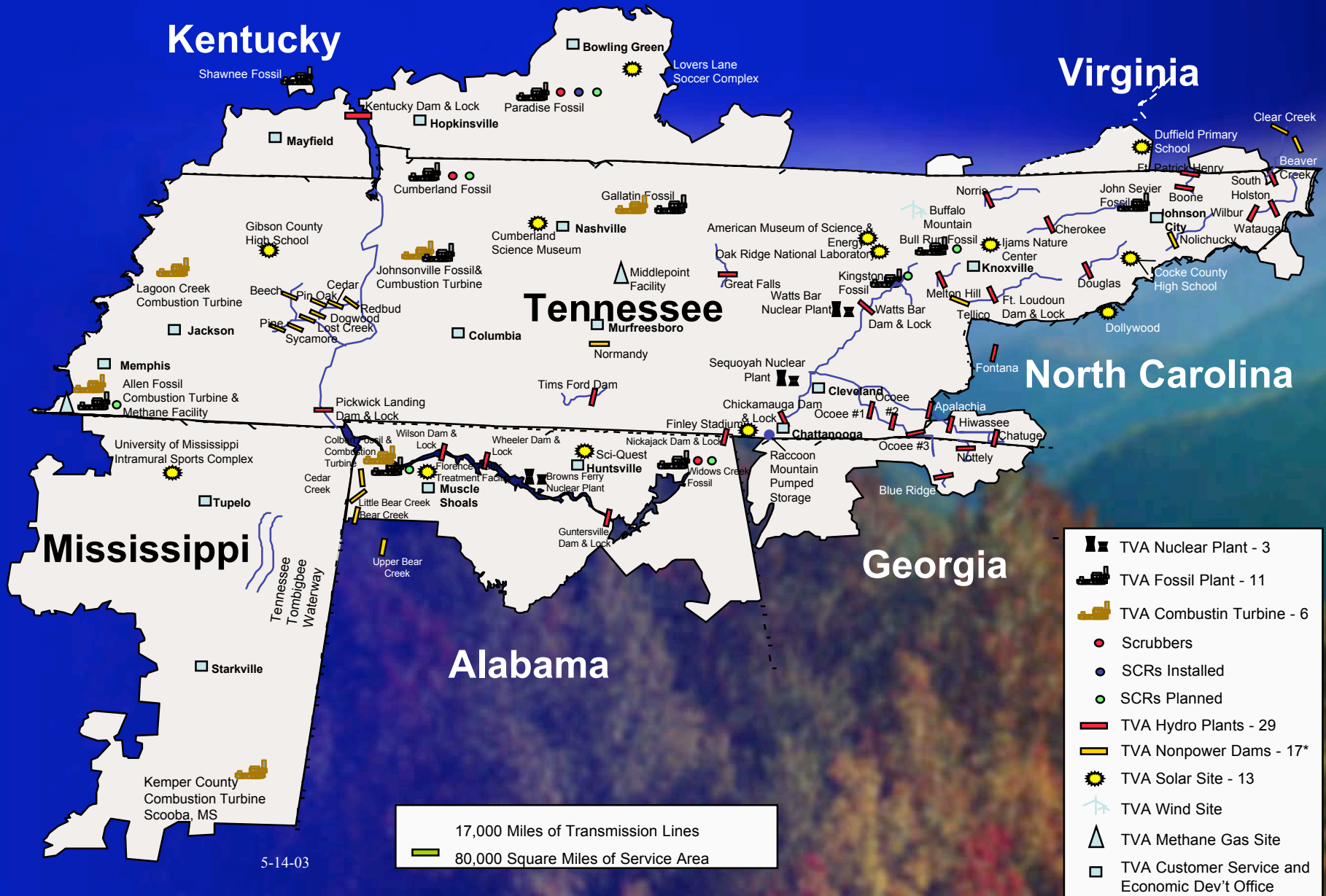


Tennessee Valley Authority
Environmental Management System

Continuous Improvement for Results



What is TVA?



5-14-03

What Is an EMS?

A structured approach that incorporates environmental considerations into day-to-day operations throughout the organization, and is designed to promote continual improvement—OFEE

A continual cycle of planning, implementing, reviewing and improving the processes and actions that an organization undertakes to meet its business and environmental goals—EPA

The part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy—ISO

What Is an EMS?

- Combination of components that may function well alone but better as a system
- Think of an EMS as a collection of car parts that, only when assembled and working together as a system, enables you to get to your destination



TVA EMS Evolution

- Pre-1996 – compliance processes
- 1996 EMS – based on draft ISO 14001
- 2001 EMS – based on final ISO 14001



Sustainability /
Performance

TVA's First EMS

- What it did:
 - Policy
 - Processes
 - Environmental training
 - Process indicators and environmental goals
 - Performance reporting
 - Regulatory review and guidance process
 - Environmental compliance audits, self-assessments, and corrective action



TVA's First EMS (cont.)

- What it didn't do:
 - Process to maintain and develop policy
 - Identify roles and responsibilities
 - Method to maintain EMS documents
 - Track the indicators or set goals
 - Report performance
 - Receive management review
 - Standardize environmental review (NEPA)



TVA's First EMS (cont.)

- What it didn't do:
 - Leverage regulatory review and guidance
 - Audit EMS requirements or verify corrective actions
 - Communications and stakeholder involvement
 - Records management
 - Emergency response and notification
 - Recognition



TVA's Current EMS

- What's new:
 - Actionable corporate policy and a process to maintain and develop policies
 - Roles and responsibilities from TVA Board of Directors to technician
 - Standardized environmental processes with biennial review
 - Standardized environmental training and Web application



TVA's Current EMS (cont.)

- What's new:
 - Aspect and impact analysis, objectives and targets
 - Tracking and reporting to management and stakeholders
 - Collaborative teams of experts reviewing regulations and issuing guidance
 - Risk-based compliance and EMS audits with closure verification
 - Emphasis on self-assessments
 - Cause trend analysis



TVA's Current EMS (cont.)

- What's new:
 - Standardized environmental review documents and Web-based record and tracking system
 - Communication and stakeholder involvement process to “speak with one voice” on environmental issues
 - Standardized recordkeeping emphasizing electronic storage
 - Emergency preparedness and Web-based notification system
 - Environmental excellence recognition



TVA's Current EMS (cont.)

- What's new:
 - Internal Web site devoted to the TVA EMS
 - Available through the TVA InsideNet home page
 - Cornerstone of TVA's internal environmental communications



Environmental Information Center - Home Page

InsideNet Search Contents How Do I Organizations TellNet

Environmental Information Center

Welcome to TVA's Environmental Information Center.

As a regional development agency and the nation's largest public power provider, TVA is committed to protecting the environmental resources of the Valley. This Web site provides information you will need to support the [environmental policy and principles](#) TVA follows to protect the environment.

EMERGENCY reporting
Report environmental emergencies here.

environmental BULLETIN BOARD

TVA Environmental Contingency 2003

EMS Tutorial

Master environmental calendar

YOUR ROLE
Click here to learn more about your role in meeting TVA's Environmental Policy and Principles.

New EMS posters and individual Environmental Policy and Principles cards are now available for your facility or office.

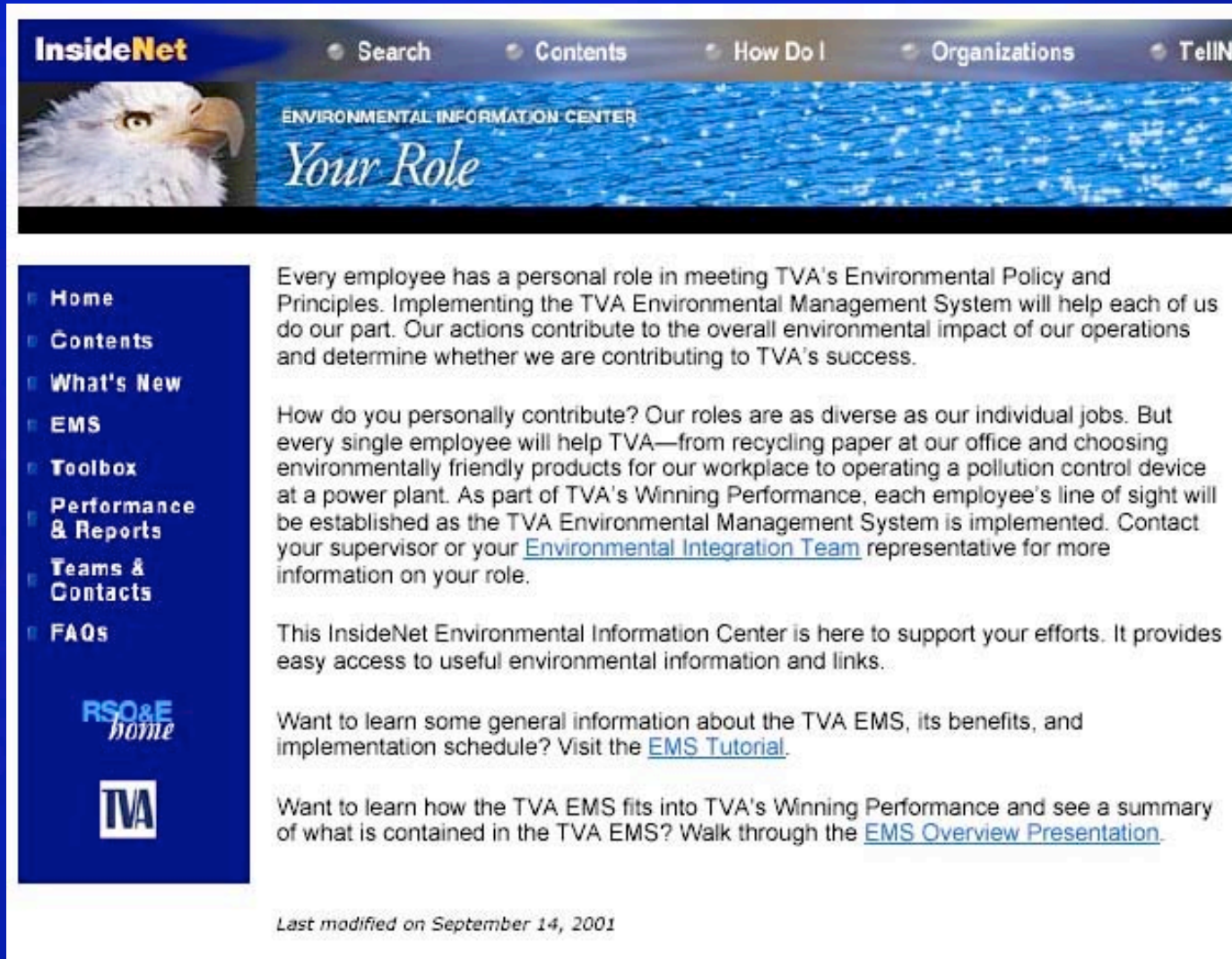
Click on the leaves below to request your set.

Last modified on April 28, 2003
Inquiries and comments should be sent to the [site administrator](#).
This Web site is provided by [Environmental Policy and Planning](#).


RS&E home
TVA

TVA

Environmental Information Center – Your Role



InsideNet Search Contents How Do I Organizations TellNe

 ENVIRONMENTAL INFORMATION CENTER
Your Role

- Home
- Contents
- What's New
- EMS
- Toolbox
- Performance & Reports
- Teams & Contacts
- FAQs

RSO&E
home

TVA

Every employee has a personal role in meeting TVA's Environmental Policy and Principles. Implementing the TVA Environmental Management System will help each of us do our part. Our actions contribute to the overall environmental impact of our operations and determine whether we are contributing to TVA's success.

How do you personally contribute? Our roles are as diverse as our individual jobs. But every single employee will help TVA—from recycling paper at our office and choosing environmentally friendly products for our workplace to operating a pollution control device at a power plant. As part of TVA's Winning Performance, each employee's line of sight will be established as the TVA Environmental Management System is implemented. Contact your supervisor or your [Environmental Integration Team](#) representative for more information on your role.

This InsideNet Environmental Information Center is here to support your efforts. It provides easy access to useful environmental information and links.

Want to learn some general information about the TVA EMS, its benefits, and implementation schedule? Visit the [EMS Tutorial](#).


Want to learn how the TVA EMS fits into TVA's Winning Performance and see a summary of what is contained in the TVA EMS? Walk through the [EMS Overview Presentation](#).

Last modified on September 14, 2001



Environmental Information Center – Posters and Cards


InsideNet Search Contents How Do I Organizations TellNe



Environmental Information Center

- Home
- Contents
- What's New
- EMS
- Toolbox
- Performance & Reports
- Teams & Contacts
- FAQs

RSO&E home

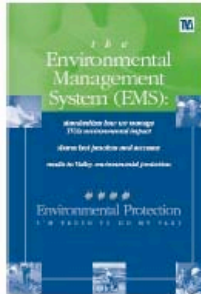


Environmental Management System Posters and Environmental Policy and Principles Cards

Two 20"X30" EMS posters have been created to support increased environmental awareness TVA-wide as well as assist employees in identifying their role in protecting and sustaining the Valley's natural resources. In addition, Environmental Policy and Principles cards are available for every employee.

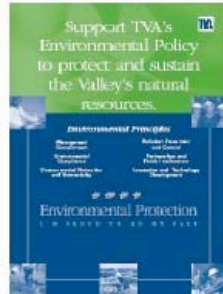
Please complete this [form](#) to request your free set (or sets) of EMS posters and cards! It's easy. Simply indicate the number of poster sets or cards you need, your name, internal address, and phone number. Posters/cards will be delivered to you as soon as possible. We suggest that you place these posters in high traffic areas, such as entrances and exits from TVA facilities, in or near eating areas, or in any high traffic area you deem appropriate.

You can print a smaller version of these posters using the PDF files below.



Environmental Management System (EMS)

Environmental Protection



Support TVA's Environmental Policy to protect and sustain the Valley's natural resources.


Environmental Principles

Environmental Protection

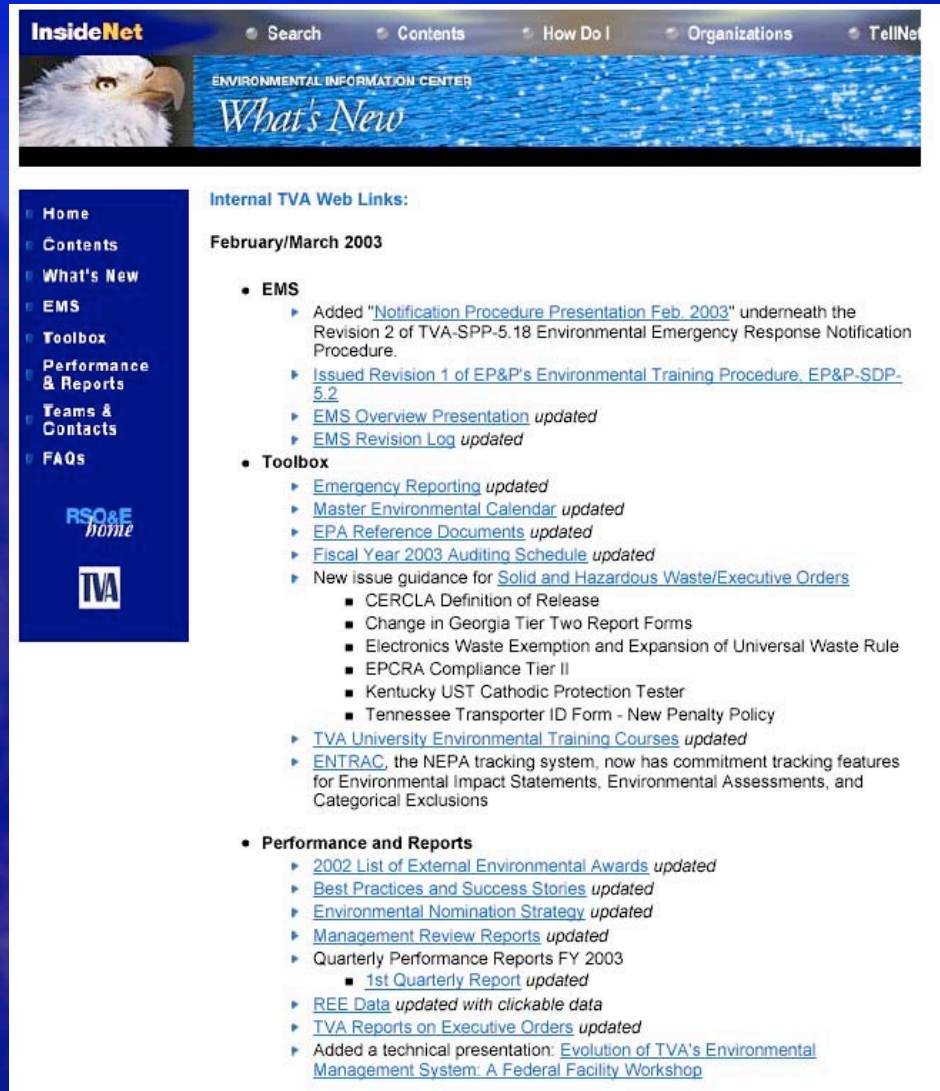
These posters are a great visual reminder that each of us shares the responsibility to protect the environment.

Environmental Protection - I'm Proud to Do My Part

Last modified on October 2, 2002
Inquiries and comments should be sent to the [site administrator](#).



Environmental Information Center – What's New



The screenshot shows the 'InsideNet' website interface. At the top, there is a navigation bar with links for Search, Contents, How Do I, Organizations, and TellNet. Below this is a banner featuring an eagle's head on the left and the text 'ENVIRONMENTAL INFORMATION CENTER' and 'What's New' on a blue, textured background. A left-hand navigation menu lists various sections: Home, Contents, What's New, EMS, Toolbox, Performance & Reports, Teams & Contacts, and FAQs. Below the menu are logos for 'RS&E home' and 'TVA'. The main content area is titled 'Internal TVA Web Links:' and 'February/March 2003'. It contains three main categories: EMS, Toolbox, and Performance and Reports, each with a list of updated links and documents.

InsideNet Search Contents How Do I Organizations TellNet

ENVIRONMENTAL INFORMATION CENTER
What's New

Home
Contents
What's New
EMS
Toolbox
Performance & Reports
Teams & Contacts
FAQs

RS&E
home

TVA

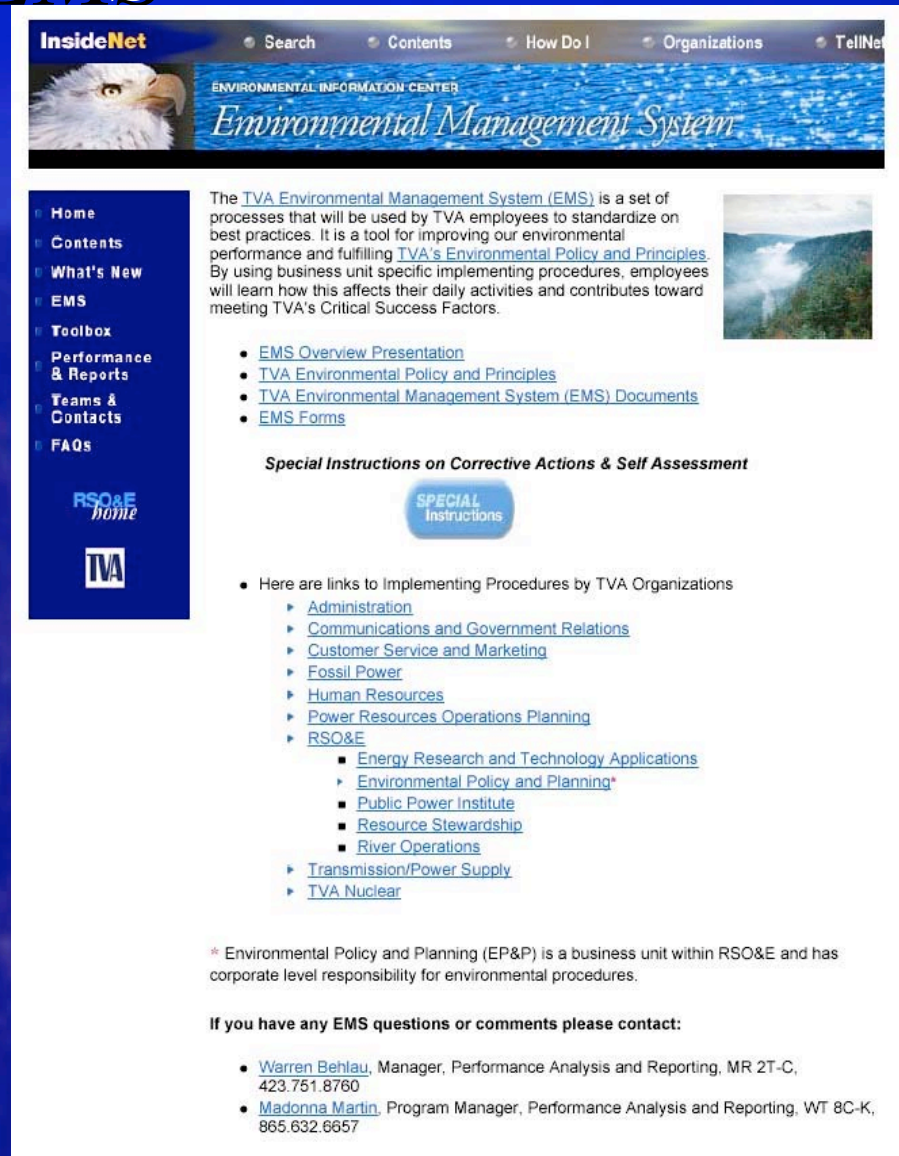
Internal TVA Web Links:

February/March 2003

- **EMS**
 - ▶ Added "[Notification Procedure Presentation Feb. 2003](#)" underneath the Revision 2 of TVA-SPP-5.18 Environmental Emergency Response Notification Procedure.
 - ▶ [Issued Revision 1 of EP&P's Environmental Training Procedure, EP&P-SDP-5.2](#)
 - ▶ [EMS Overview Presentation](#) updated
 - ▶ [EMS Revision Log](#) updated
- **Toolbox**
 - ▶ [Emergency Reporting](#) updated
 - ▶ [Master Environmental Calendar](#) updated
 - ▶ [EPA Reference Documents](#) updated
 - ▶ [Fiscal Year 2003 Auditing Schedule](#) updated
 - ▶ New issue guidance for [Solid and Hazardous Waste/Executive Orders](#)
 - CERCLA Definition of Release
 - Change in Georgia Tier Two Report Forms
 - Electronics Waste Exemption and Expansion of Universal Waste Rule
 - EPCRA Compliance Tier II
 - Kentucky UST Cathodic Protection Tester
 - Tennessee Transporter ID Form - New Penalty Policy
 - ▶ [TVA University Environmental Training Courses](#) updated
 - ▶ [ENTRAC](#), the NEPA tracking system, now has commitment tracking features for Environmental Impact Statements, Environmental Assessments, and Categorical Exclusions
- **Performance and Reports**
 - ▶ [2002 List of External Environmental Awards](#) updated
 - ▶ [Best Practices and Success Stories](#) updated
 - ▶ [Environmental Nomination Strategy](#) updated
 - ▶ [Management Review Reports](#) updated
 - ▶ Quarterly Performance Reports FY 2003
 - [1st Quarterly Report](#) updated
 - ▶ [REE Data](#) updated with [clickable data](#)
 - ▶ [TVA Reports on Executive Orders](#) updated
 - ▶ Added a technical presentation: [Evolution of TVA's Environmental Management System: A Federal Facility Workshop](#)



Environmental Information Center - EMS




InsideNet Search Contents How Do I Organizations TellNe

ENVIRONMENTAL INFORMATION CENTER
Environmental Management System

Home
Contents
What's New
EMS
Toolbox
Performance & Reports
Teams & Contacts
FAQs

RSO&E home
TVA

The [TVA Environmental Management System \(EMS\)](#) is a set of processes that will be used by TVA employees to standardize on best practices. It is a tool for improving our environmental performance and fulfilling [TVA's Environmental Policy and Principles](#). By using business unit specific implementing procedures, employees will learn how this affects their daily activities and contributes toward meeting TVA's Critical Success Factors.



- [EMS Overview Presentation](#)
- [TVA Environmental Policy and Principles](#)
- [TVA Environmental Management System \(EMS\) Documents](#)
- [EMS Forms](#)

Special Instructions on Corrective Actions & Self Assessment


SPECIAL Instructions

- Here are links to Implementing Procedures by TVA Organizations
 - ▶ [Administration](#)
 - ▶ [Communications and Government Relations](#)
 - ▶ [Customer Service and Marketing](#)
 - ▶ [Fossil Power](#)
 - ▶ [Human Resources](#)
 - ▶ [Power Resources Operations Planning](#)
 - ▶ [RSO&E](#)
 - [Energy Research and Technology Applications](#)
 - ▶ [Environmental Policy and Planning*](#)
 - [Public Power Institute](#)
 - [Resource Stewardship](#)
 - [River Operations](#)
 - ▶ [Transmission/Power Supply](#)
 - ▶ [TVA Nuclear](#)

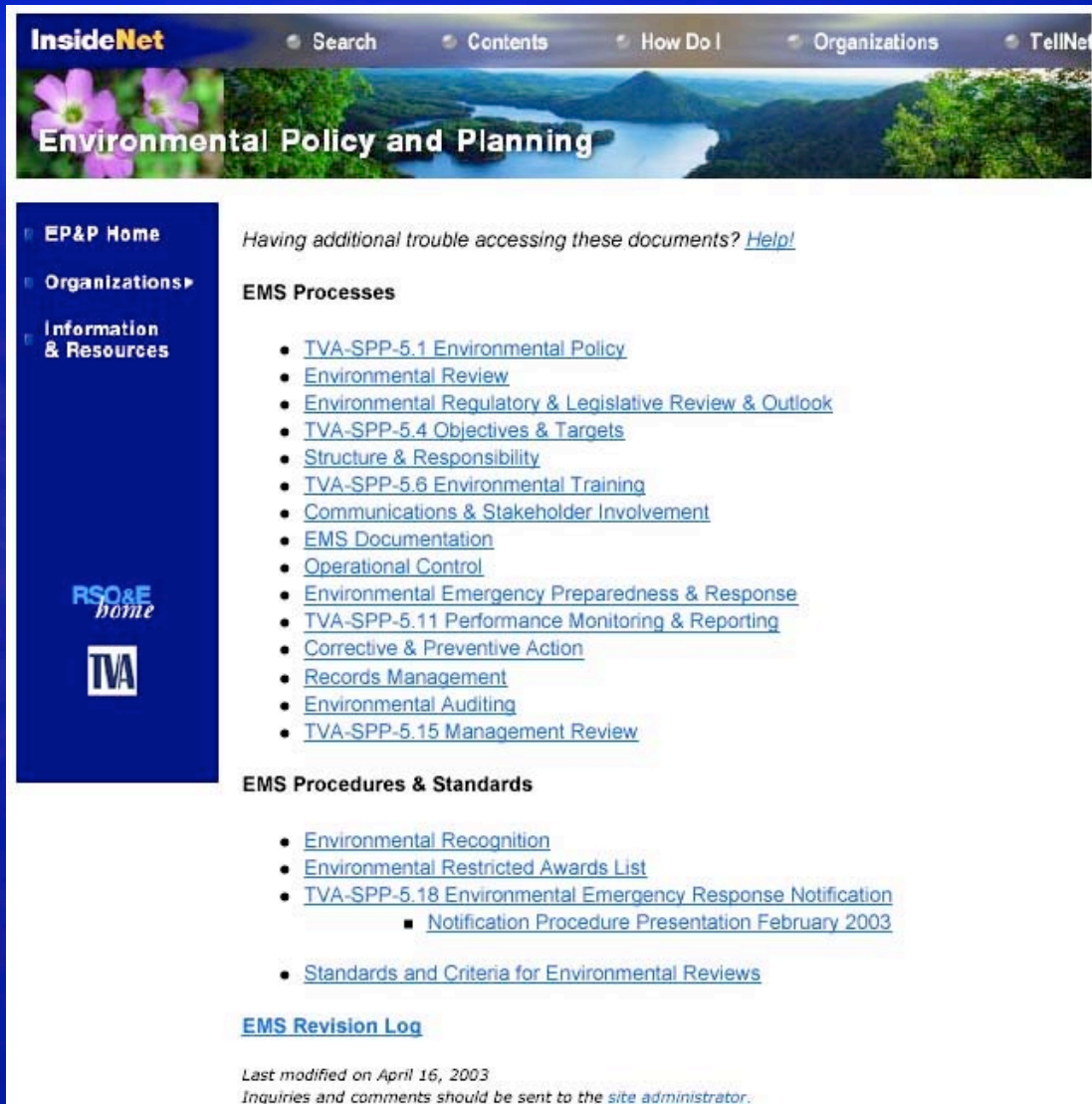
* Environmental Policy and Planning (EP&P) is a business unit within RSO&E and has corporate level responsibility for environmental procedures.

If you have any EMS questions or comments please contact:

- [Warren Behlau](#), Manager, Performance Analysis and Reporting, MR 2T-C, 423.751.8760
- [Madonna Martin](#), Program Manager, Performance Analysis and Reporting, WT 8C-K, 865.632.6657



Environmental Information Center – TVA EMS



InsideNet Search Contents How Do I Organizations TellNet

Environmental Policy and Planning

EP&P Home
Organizations
Information & Resources

Having additional trouble accessing these documents? [Help!](#)

EMS Processes

- [TVA-SPP-5.1 Environmental Policy](#)
- [Environmental Review](#)
- [Environmental Regulatory & Legislative Review & Outlook](#)
- [TVA-SPP-5.4 Objectives & Targets](#)
- [Structure & Responsibility](#)
- [TVA-SPP-5.6 Environmental Training](#)
- [Communications & Stakeholder Involvement](#)
- [EMS Documentation](#)
- [Operational Control](#)
- [Environmental Emergency Preparedness & Response](#)
- [TVA-SPP-5.11 Performance Monitoring & Reporting](#)
- [Corrective & Preventive Action](#)
- [Records Management](#)
- [Environmental Auditing](#)
- [TVA-SPP-5.15 Management Review](#)

EMS Procedures & Standards

- [Environmental Recognition](#)
- [Environmental Restricted Awards List](#)
- [TVA-SPP-5.18 Environmental Emergency Response Notification](#)
 - [Notification Procedure Presentation February 2003](#)
- [Standards and Criteria for Environmental Reviews](#)

EMS Revision Log


Last modified on April 16, 2003
Inquiries and comments should be sent to the [site administrator](#).

RSO&E
home

TVA

TVA

Environmental Information Center - Toolbox



The screenshot shows a web browser window with the title "InsideNet". The navigation menu includes "Search", "Contents", "How Do I", "Organizations", and "Tell". The main header features a bald eagle image on the left and the text "ENVIRONMENTAL INFORMATION CENTER" and "Toolbox" on a blue water background. A left sidebar contains a menu with items: Home, Contents, What's New, EMS, Toolbox, Performance & Reports, Teams & Contacts, and FAQs. Below the menu are logos for "RS&E home" and "TVA". The main content area is titled "General:" and lists ten links: Acronyms and EMS Definitions, Criteria for Assessing the Effectiveness of Facility EMS Implementation, Environmental Recordkeeping, EPA Reference Documents, Environmental Restricted Awards List (ERAL) Vendors, ISO EMS Standards, News You Can Use, Policy and Regulatory Information, TVA Benchmarking, TVA EMS Forms, and TVA University Environmental Training Courses. To the right of this list is an image of a green rolling toolbox. Below the "General:" section is a "Links to Supporting Programs:" section with three links: ENTRAC, NEPA Tracking System, Environmental Compliance and Awareness Training Assessment (ECATA), and Environmental Event Reporting. The "Schedules:" section lists four links: Fiscal Year 2003 Auditing Schedule, EMS Biennial Review Schedule, Environmental Training Monthly Schedule, and Master Environmental Calendar. At the bottom, a footer note states: "Last modified on April 18, 2003. Inquiries and comments should be sent to the [site administrator](#)."

InsideNet Search Contents How Do I Organizations Tell

ENVIRONMENTAL INFORMATION CENTER
Toolbox

Home
Contents
What's New
EMS
Toolbox
Performance & Reports
Teams & Contacts
FAQs

RS&E
home

TVA

General:

- [Acronyms and EMS Definitions](#)
- [Criteria for Assessing the Effectiveness of Facility EMS Implementation](#)
- [Environmental Recordkeeping](#)
- [EPA Reference Documents](#)
- [Environmental Restricted Awards List \(ERAL\) Vendors](#)
- [ISO EMS Standards](#)
- [News You Can Use](#)
- [Policy and Regulatory Information](#)
- [TVA Benchmarking](#)
- [TVA EMS Forms](#)
- [TVA University Environmental Training Courses](#)

Links to Supporting Programs:

- [ENTRAC, NEPA Tracking System](#)
- [Environmental Compliance and Awareness Training Assessment \(ECATA\)](#)
- [Environmental Event Reporting](#)

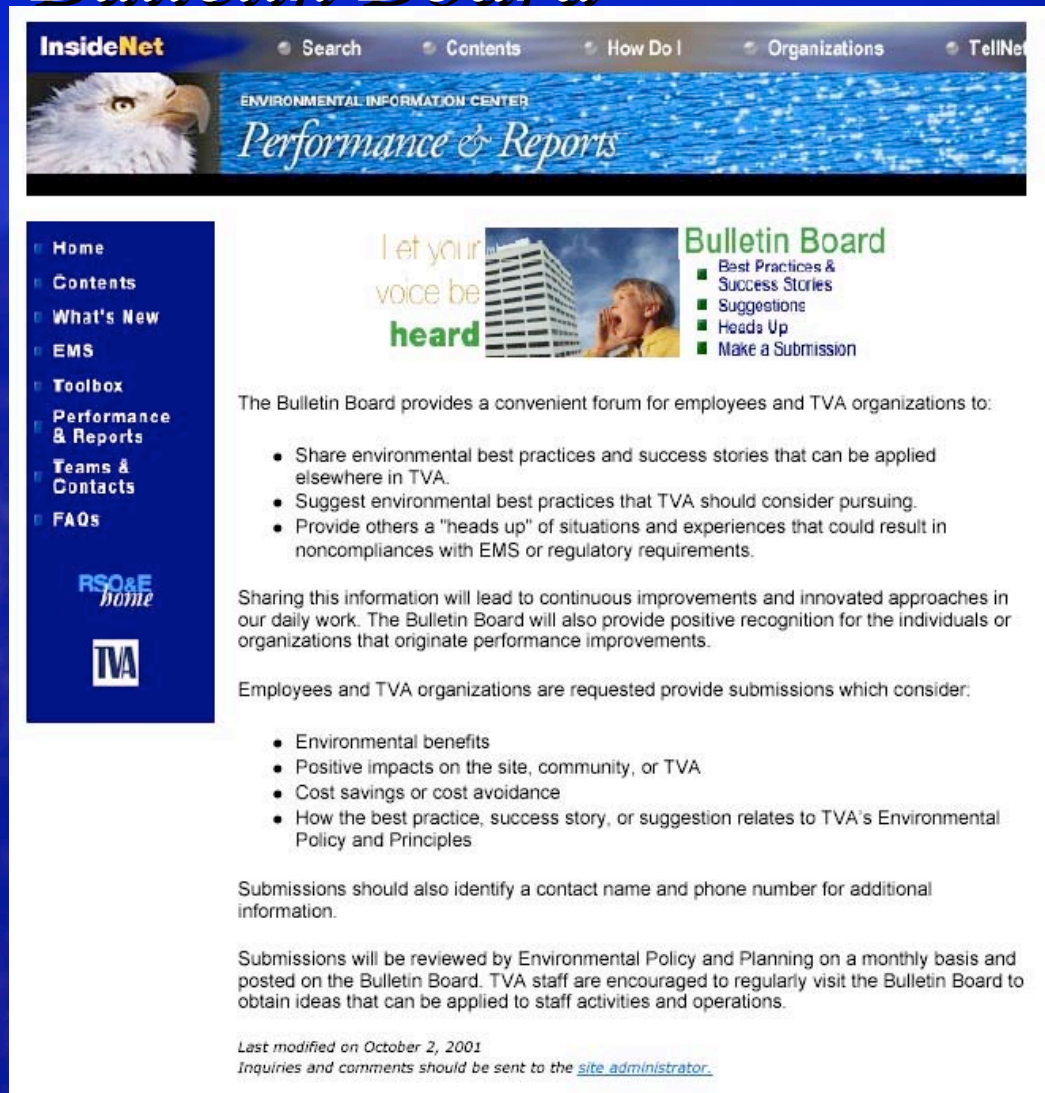
Schedules:

- [Fiscal Year 2003 Auditing Schedule](#)
- [EMS Biennial Review Schedule](#)
- [Environmental Training Monthly Schedule](#)
- [Master Environmental Calendar](#)

Last modified on April 18, 2003
Inquiries and comments should be sent to the [site administrator](#).

TVA

Environmental Information Center – Bulletin Board



The screenshot shows a web page titled "InsideNet" with a navigation menu including "Search", "Contents", "How Do I", "Organizations", and "TellNe". The main header features an eagle and the text "ENVIRONMENTAL INFORMATION CENTER Performance & Reports". A sidebar on the left lists navigation options: Home, Contents, What's New, EMS, Toolbox, Performance & Reports, Teams & Contacts, and FAQs. The main content area is titled "Bulletin Board" and includes a graphic with the text "Let your voice be heard" and a list of categories: Best Practices & Success Stories, Suggestions, Heads Up, and Make a Submission. The text describes the Bulletin Board as a forum for employees and TVA organizations to share best practices, suggest improvements, and report non-compliances. It also lists criteria for submissions, such as environmental benefits, positive impacts, cost savings, and relevance to TVA's policy. The page concludes with a note that submissions will be reviewed monthly and posted on the Bulletin Board, and provides contact information for the site administrator.

InsideNet Search Contents How Do I Organizations TellNe

ENVIRONMENTAL INFORMATION CENTER
Performance & Reports

Home
Contents
What's New
EMS
Toolbox
Performance & Reports
Teams & Contacts
FAQs

RSO&E
home

TVA

Let your voice be heard

Bulletin Board

- Best Practices & Success Stories
- Suggestions
- Heads Up
- Make a Submission

The Bulletin Board provides a convenient forum for employees and TVA organizations to:

- Share environmental best practices and success stories that can be applied elsewhere in TVA.
- Suggest environmental best practices that TVA should consider pursuing.
- Provide others a "heads up" of situations and experiences that could result in noncompliances with EMS or regulatory requirements.

Sharing this information will lead to continuous improvements and innovated approaches in our daily work. The Bulletin Board will also provide positive recognition for the individuals or organizations that originate performance improvements.

Employees and TVA organizations are requested provide submissions which consider:

- Environmental benefits
- Positive impacts on the site, community, or TVA
- Cost savings or cost avoidance
- How the best practice, success story, or suggestion relates to TVA's Environmental Policy and Principles


Submissions should also identify a contact name and phone number for additional information.

Submissions will be reviewed by Environmental Policy and Planning on a monthly basis and posted on the Bulletin Board. TVA staff are encouraged to regularly visit the Bulletin Board to obtain ideas that can be applied to staff activities and operations.

Last modified on October 2, 2001
Inquiries and comments should be sent to the [site administrator](#).

Environmental Information Center – Teams & Contacts


InsideNet ● Search ● Contents ● How Do I ● Organizations ● TellNet




ENVIRONMENTAL INFORMATION CENTER
Teams & Contacts

- Home
- Contents
- What's New
- EMS
- Toolbox
- Performance & Reports
- Teams & Contacts**
- FAQs


- [Environmental Audit Steering Team](#)
- [EMS Steering Team](#)
- [Environmental Advisory Team \(EAT\)](#)
- [Environmental Integration Team \(EIT\)](#)
- [Environmental Training Sub-Peer Team](#)
- [Lead Managers and Site Contacts](#)
- [Regulatory and Policy Teams \(RPTs\)](#)
 - ▶ [Air](#)
 - ▶ [Solid and Hazardous Waste/Integration](#)
 - ▶ [Water](#)
- [External U-Groups](#)



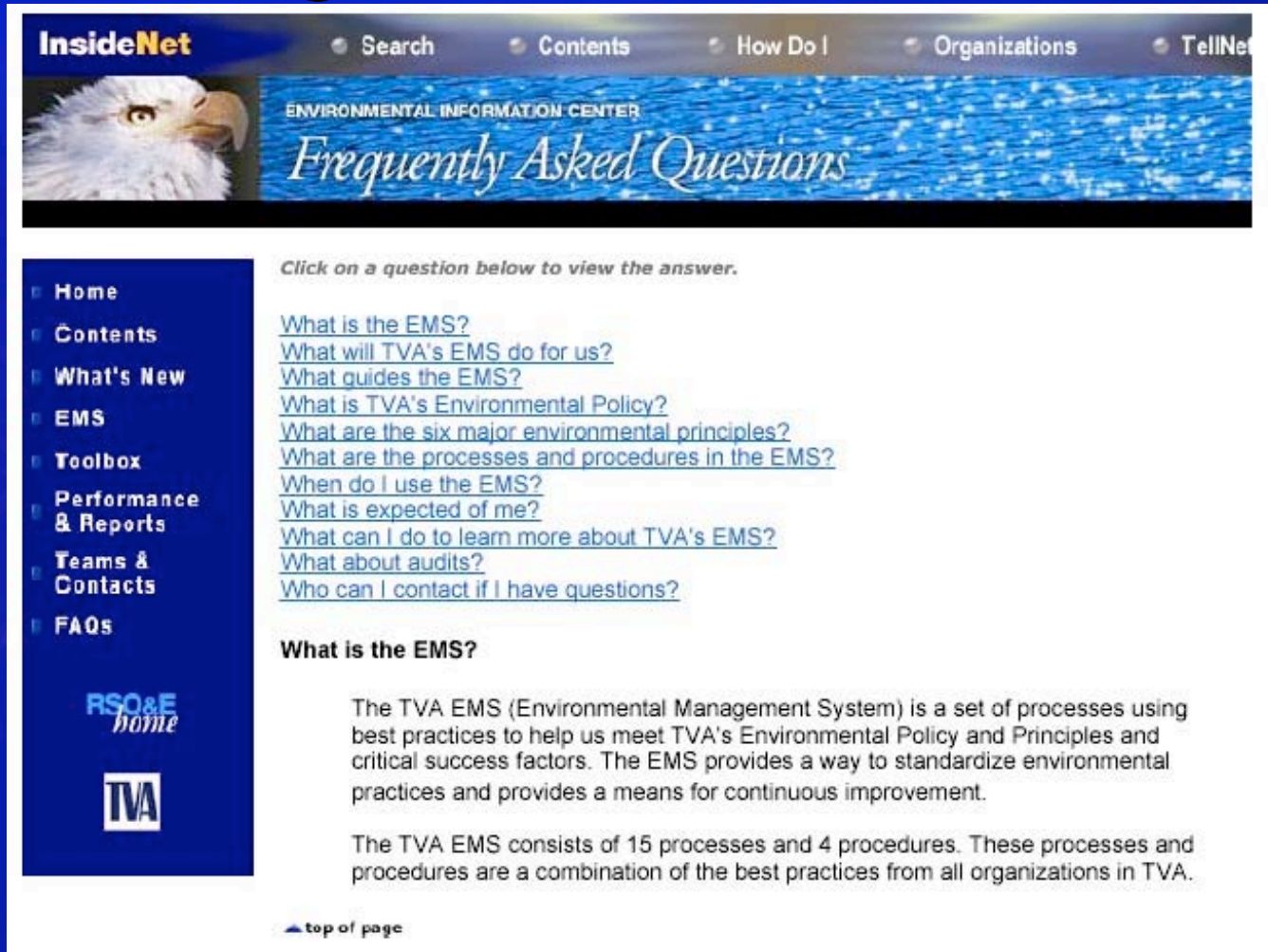
RSO&E
home



*Last modified on April 15, 2003
Inquiries and comments should be sent to the [site administrator](#).*



Environmental Information Center - FAQs



InsideNet Search Contents How Do I Organizations TellNet

ENVIRONMENTAL INFORMATION CENTER
Frequently Asked Questions

Click on a question below to view the answer.

- [Home](#)
- [Contents](#)
- [What's New](#)
- [EMS](#)
- [Toolbox](#)
- [Performance & Reports](#)
- [Teams & Contacts](#)
- [FAQs](#)

What is the EMS?

[What will TVA's EMS do for us?](#)

[What guides the EMS?](#)

[What is TVA's Environmental Policy?](#)

[What are the six major environmental principles?](#)

[What are the processes and procedures in the EMS?](#)

[When do I use the EMS?](#)

[What is expected of me?](#)

[What can I do to learn more about TVA's EMS?](#)

[What about audits?](#)

[Who can I contact if I have questions?](#)

What is the EMS?

The TVA EMS (Environmental Management System) is a set of processes using best practices to help us meet TVA's Environmental Policy and Principles and critical success factors. The EMS provides a way to standardize environmental practices and provides a means for continuous improvement.

The TVA EMS consists of 15 processes and 4 procedures. These processes and procedures are a combination of the best practices from all organizations in TVA.

[top of page](#)

RSO&E home
TVA

TVA

TVA's Current EMS (cont.)

- Results:

- Reduced 457 environmental training courses to 84 through standardization, saving \$6.8 million in 2003
- Reduced average internal audit findings per audit an additional 67% since 2000
- Reduced internal repeat audit findings an additional average 84% since 2000
- Reduced Reportable Environmental Events and additional average 17% per year since 2000
- Lowest SO₂ and NO_x emissions in 28 years
- 49% RCRA designated commodities were purchased with recycled content in 2003
- Reduced solid waste generation an additional 31% since 2000



Lessons Learned

- Keys to improved performance and sustainability:
 - Management commitment
 - Ownership and accountability
 - EMS auditing, self-assessments, corrective action
 - Emphasis on prevention
 - Measure and report
 - ISO 14001
 - Start with structure and responsibility
 - Integrate the EMS everywhere you can
 - Faster results with a corporate-wide approach
 - Persistence and promotion
 - Communication, communication, communication



Make a system, not a notebook



Questions and Discussion