

# Implementing an Environmental Management Information System

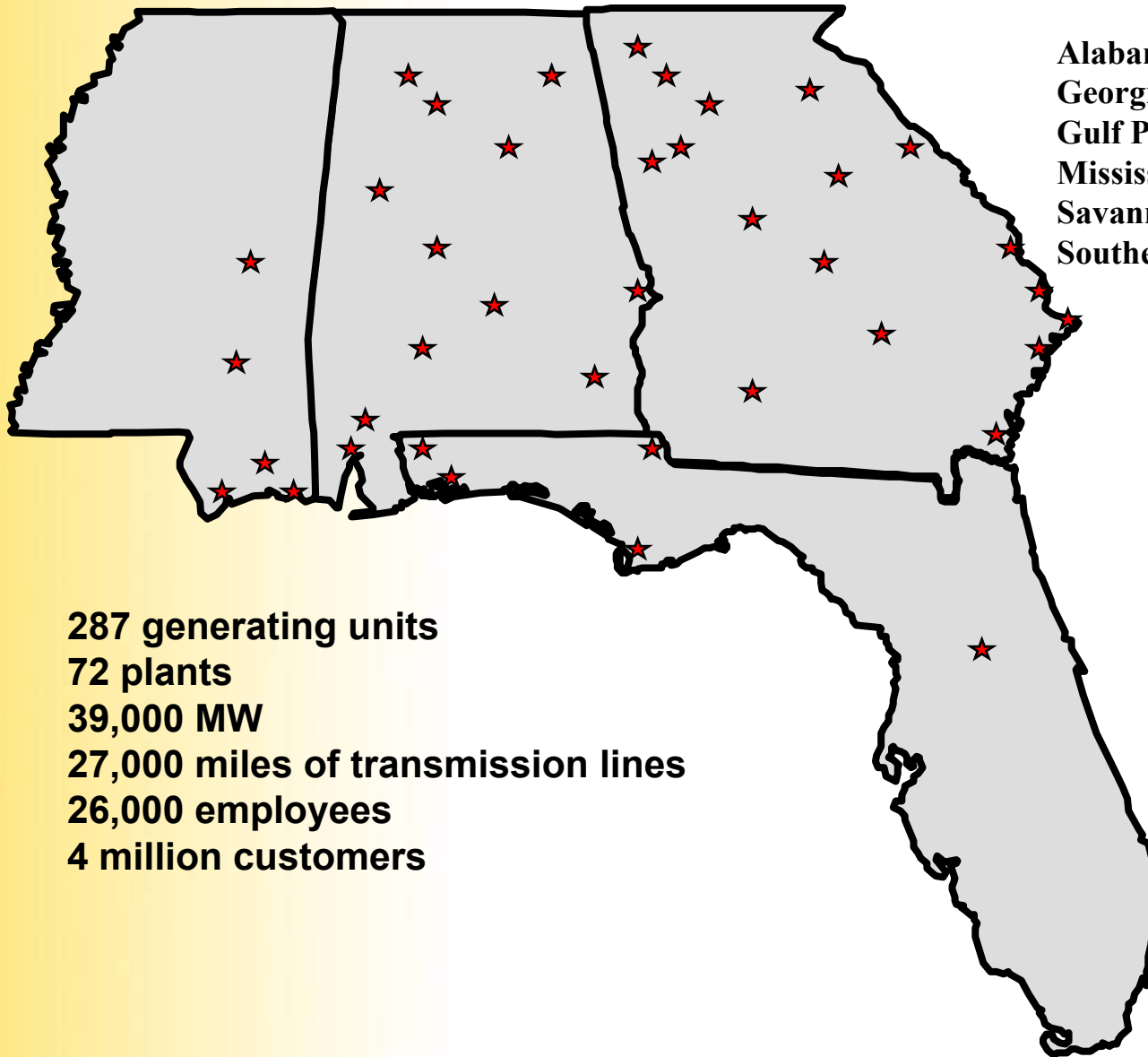
## *A Case Study from Southern Power Company*

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**Enviance, Inc.**

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**Atlanta, Georgia**  
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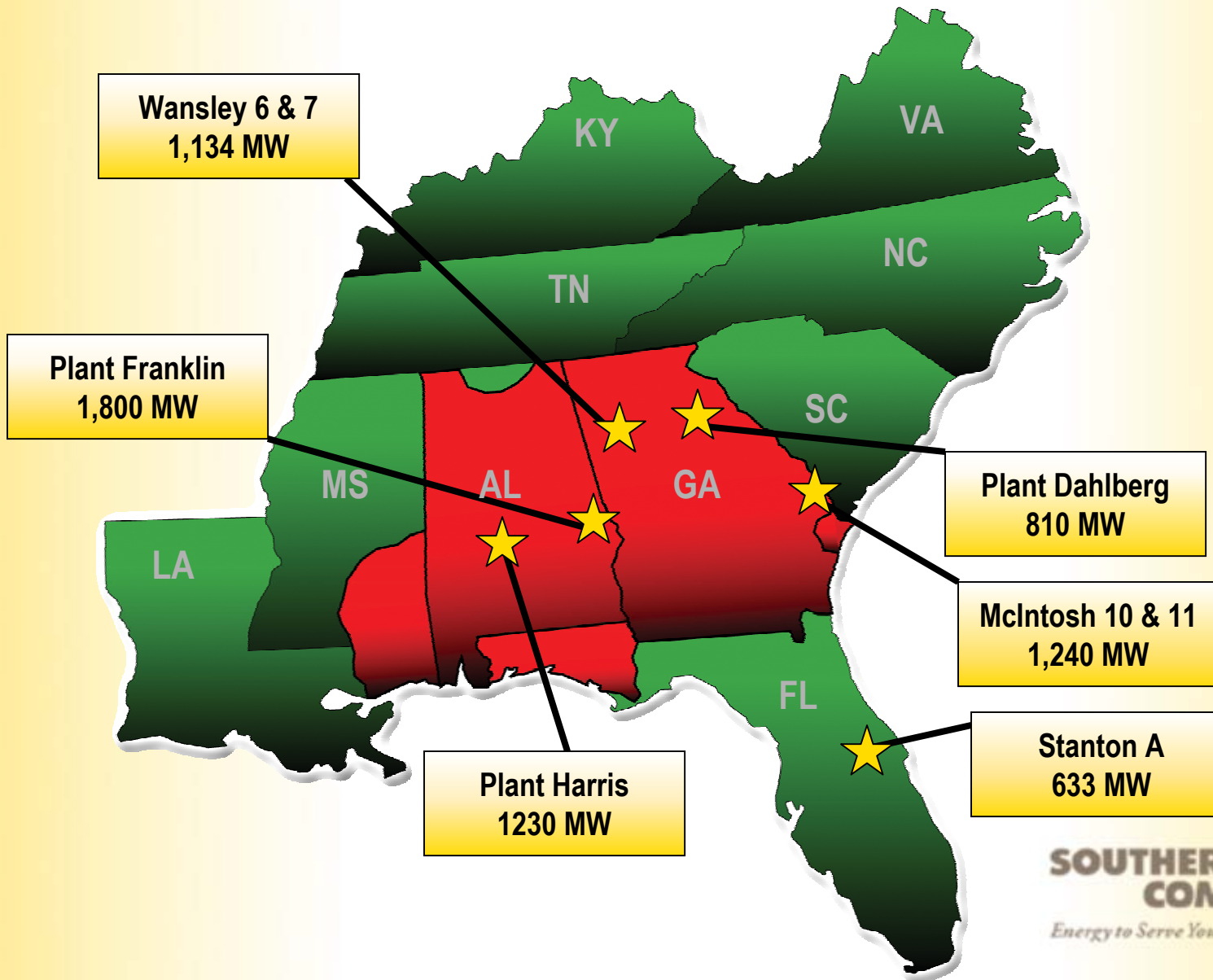
# Southern Company



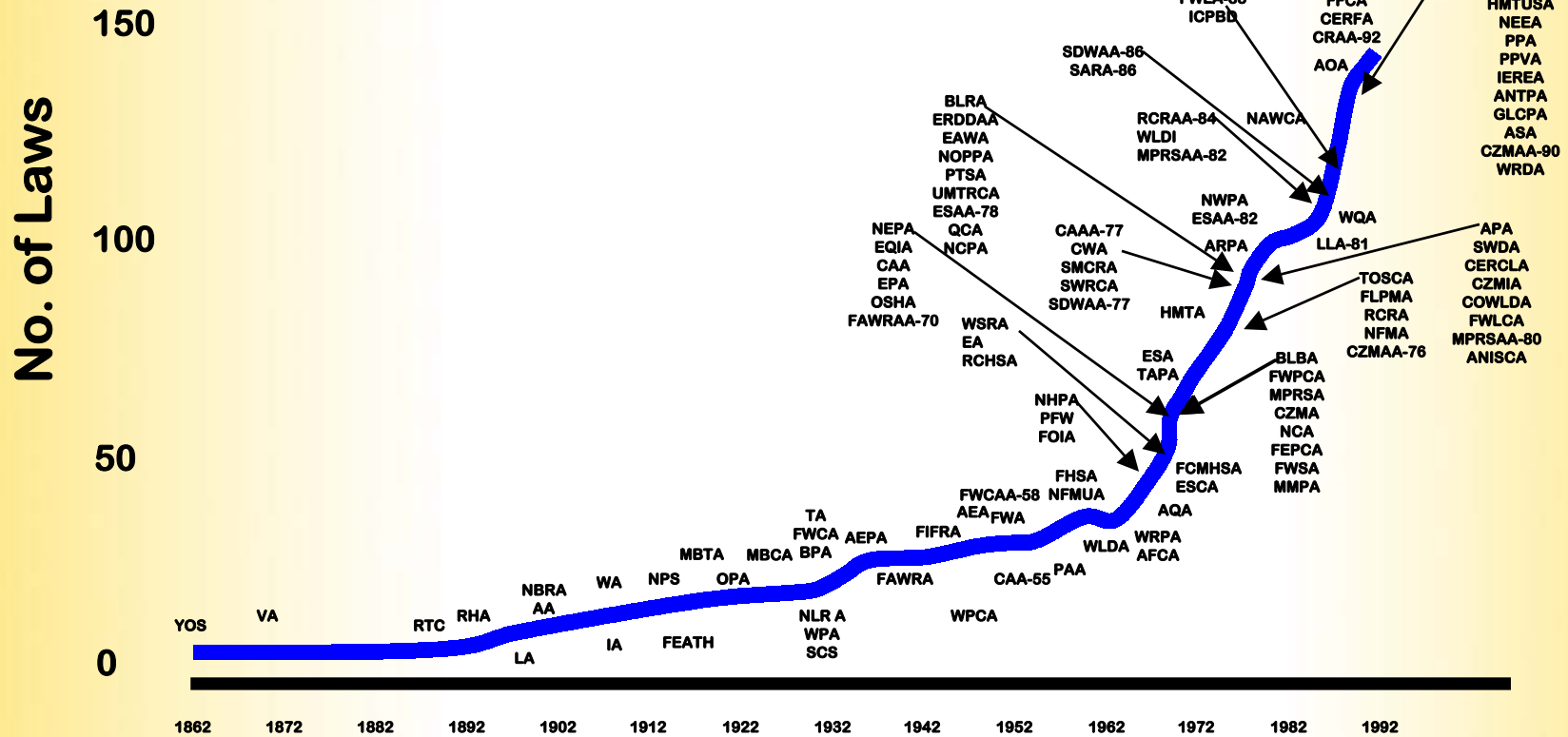
**Alabama Power Company**  
**Georgia Power Company**  
**Gulf Power Company**  
**Mississippi Power Company**  
**Savannah Electric and Power Company**  
**Southern Power Company**

**287 generating units**  
**72 plants**  
**39,000 MW**  
**27,000 miles of transmission lines**  
**26,000 employees**  
**4 million customers**

# Southern Power Company



# Federal Environmental Laws Affecting Electric Utilities



# Environmental Landscape

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- Laws and Regulations
  - Air - SO<sub>2</sub>, NO<sub>x</sub>, PM
  - Water- Discharges/Withdrawals
  - Waste-Hazardous, Solid
  - Sentencing Guidelines
- Regulatory Agencies
  - EPA
  - FERC
  - DOT
  - Corp of Engineers
  - State & Local
- Legislative Process - Federal, State & Local
- Stockholders, Investment Agencies
- Environmental Groups

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- 
- Operating Companies, SCS, LINC/Telecom, **Southern Power**, Solutions, Southern Gas
    - Fossil Plants
    - Hydro Plants
    - Nuclear Plants
    - T&D
    - Generation & T&D Construction
  - Apply Laws and Regulations to Business
    - Risk Assessment
    - Policies / Procedures
    - Resources
    - Processes
    - Communication
    - Monitoring

# Environmental Landscape

- Laws and Regulations  
Air, SO<sub>2</sub>, NO<sub>x</sub>, DM
- Operating Companies, SCS,  
LINC/Telecom, Southern Power

## How Do We Effectively Manage These Environmental Risks and Obligations?

- Regulatory Agencies
    - EPA
    - FERC
    - DOT
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**How Do We Effectively Manage These Environmental Risks and Obligations?**

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  -
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  - Nuclear Plants
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  - Generation & T&D Construction



**Environmental Management System (EMS)**

- Legislative, State, Federal
- Stockholders, Investment Agencies
- Environmental Groups
- Communication
- Monitoring



## **Southern Company EMS**

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- **Identifies critical factors necessary to achieve and maintain an effective environmental management program**
- **Specific criteria for making sure that present and future environmental risks and obligations are properly managed**
- **Operates as a “plan, do, check, act” system**

# Southern Company EMS



# Goals for Deployment and Implementation at SPC

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## Compliance Management

- Consistency
- Clarify commitments and accountability
- Checks and balances for processes and reporting
- Information access

## Institutional Knowledge

- Knowledge retention
- Auditable records

## Scope and Purpose of Application

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- Southern Power Company-wide application to standardize task management
- Geographic flexibility
- Interface with existing systems
- Pilot for Southern Company

## Selection of an EMIS

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- Reviewed several EMIS products
  - Cost
  - Ease of use
  - Flexibility
  - Ability to integrate with existing systems
  - Ease of deployment
- Developed a business case and selected:

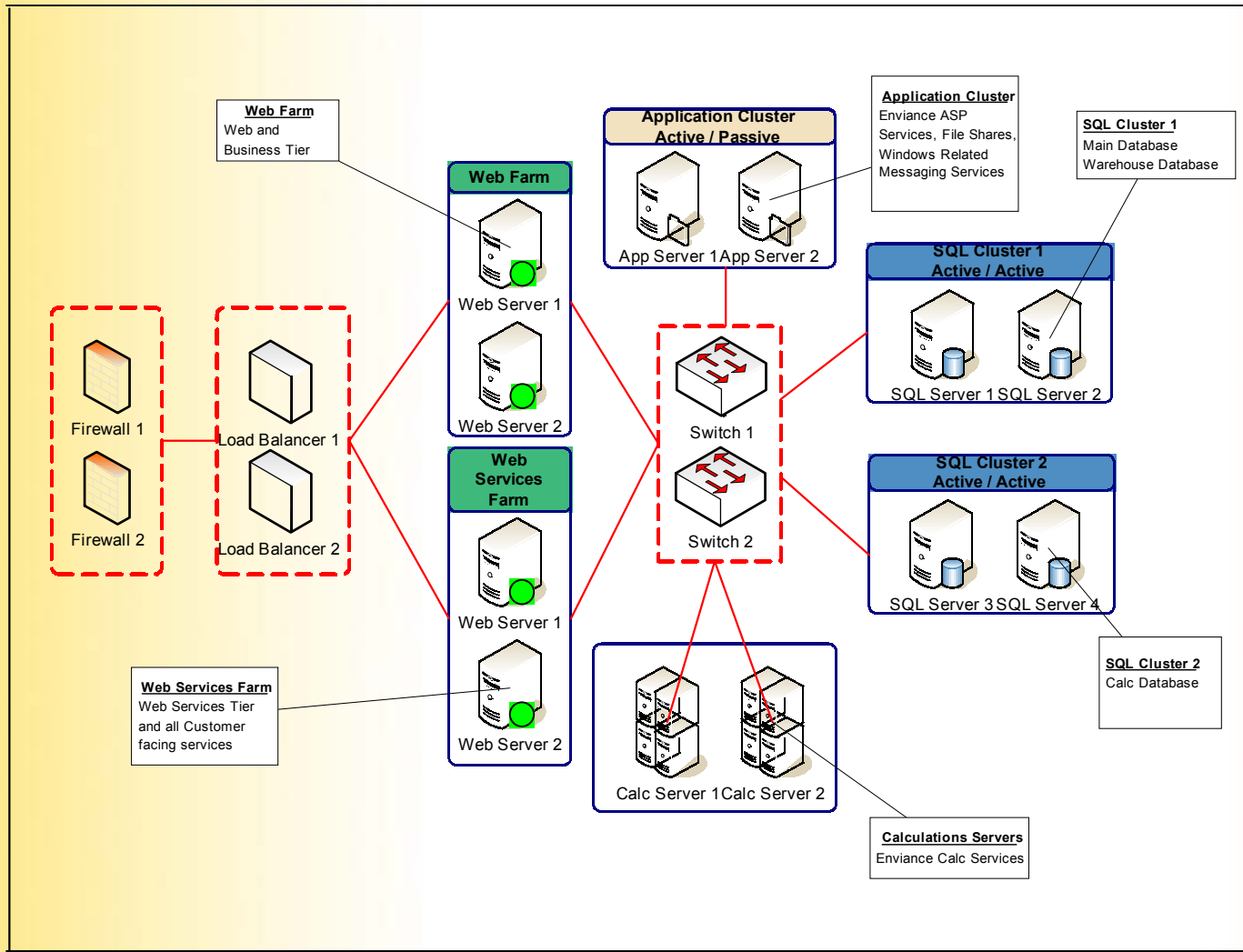


## Technology Overview

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- Application Service Provider (ASP)
  - Internet-based application – anytime, anywhere access
  - Developed, hosted and maintained by provider
  - No client hardware or software needed
- Microsoft architecture (.NET and SQL 2000 database)
  - Supports web services communications links
  - Facilitates integration with other systems
  - Faster response and enhancements
- Configured by users to fit facility details and processes

# Technology Overview



# Short-Term Primary Functionalities

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- Task management
  - Email reminders and escalators
  - Task status reporting
- All regulatory programs represented with emphasis on safety, air, and water
- Document retention and management
  - Permits
  - Protocols and agreements
  - Plans and procedures



# Information Managed by Application

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- Drivers and descriptions for all obligations
  - Regulatory
  - Permit requirements
  - Internal metrics
- Task performance data
  - Person completing task
  - Date completed
  - Completion comments
  - Status of conditions observed (for inspection requirements)
  - Applicable compliance time period
- Permit, regulatory, and internal documents

# **System Model Structure**

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# **Task Association**

# **Task Association**

# **Task Notification**



# **Task Completion**

# **System Attribute Report**

# **Task Report**

# **Document Management**

# **Document Management**

# Personnel Roles

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	Implementation	Ongoing Use
Plant EHS Specialists	<ul style="list-style-type: none"> <li>•Identified requirements</li> <li>•Entered tasks</li> </ul>	<ul style="list-style-type: none"> <li>•Main users of system</li> <li>•Manage day-to-day activities / obligations</li> </ul>
Southern Power EHS Staff	<ul style="list-style-type: none"> <li>•Managed the implementation</li> <li>•Developed system model structure</li> </ul>	<ul style="list-style-type: none"> <li>•Management and oversight</li> <li>•Tracking of performance metrics</li> </ul>
Southern Power IT Staff	<ul style="list-style-type: none"> <li>•Not required for implementation</li> <li>•Initial review and selection</li> </ul>	<ul style="list-style-type: none"> <li>•Not required for maintenance</li> <li>•Lead integration assignments</li> </ul>
System EMT	<ul style="list-style-type: none"> <li>•Identified requirements and tasks</li> <li>•QA/QC of system</li> </ul>	<ul style="list-style-type: none"> <li>•Management and oversight</li> </ul>
Enviance Staff	<ul style="list-style-type: none"> <li>•Domain expertise and guidance</li> <li>•Facilitated system model configuration</li> <li>•Training</li> </ul>	<ul style="list-style-type: none"> <li>•Technical support</li> <li>•Issue analysis</li> </ul>

# Implementation at SPC

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- Dedicated support from Enviance
  - Focused SPC's efforts
  - Helped set up system model
  - Ensured review of appropriate areas
- Accomplished mainly by SPC
  - Gained knowledge about regulatory requirements and obligations
  - Hands on use of the system – facilitating current use
  - Cost savings was an added benefit, but not the main driver
- Goal: 5 month implementation across 5 facilities

# Implementation Hurdles and Challenges

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- Identifying tasks, obligations and regulatory requirements is key
- Tying back to specific regulatory drivers is critical (understanding why we do what we do)
- Dedicating time for system model build out is required
- Interfacing with other systems is easier said than done



# Lessons Learned

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- Having SPC staff build out the system helped with ongoing use and training
- Be more organized; have a set implementation schedule
- Split training into introductory and ongoing use phases
- Single points of contact for Enviance and SPC
- Enviance's format and structure expertise added efficiency

# Benefits and Next Steps

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## Benefits

- Institutional knowledge
- Compliance confidence (things not falling through the cracks)
- Visibility into compliance status at each of the plants
- Time savings

## Next steps

- Implement at McIntosh Combined-Cycle Facility
- Develop strategy and budget to interface with other information systems
- Expand use within Southern Power (e.g. numeric data management and reporting)
- Extend use across Southern Company System (currently in pilot)

# Questions?

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