

# Project Planning and EHS Considerations

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*Senior Environmental Engineering Consultant, Atlanta*

# Introduction



## **Chris Hurst, PE, CSP**

*Senior Environmental Engineering  
Consultant, Atlanta*

Chris Hurst has over 28 years of EHS experience and has worked as state regulator in the areas of air protection, waste water engineering, hazardous waste compliance, and federal (RCRA/CERCLA) site cleanup. In addition to providing environmental consulting services, Chris has served as the corporate EHS manager for a private specialty chemical manufacturer.

## **EDUCATION**

Master of Engineering, Chemical Engineering,  
University of Louisville, 1995

Bachelor of Science, Chemical Engineering,  
University of Louisville, 1994

## **REGISTRATIONS**

Professional Engineer:  
Georgia, Alabama,  
Mississippi, Florida, South Carolina

## **CERTIFICATIONS**

40-Hour HAZWOPER  
CSP – Certified Safety Professional

# Presentation Objectives

- This presentation will cover lessons learned and observations pertaining to project management challenges related to EHS considerations and project teams, schedule and project changes
- When pre-planning under site development activities, Air and Water aspects must be a key consideration
- Primary objective is to share these experiences and personal observations with hope that there may be opportunities for others to be better prepared for their next new construction challenge

# Presentation Topics

- Background and Overview
- Project Management Challenges
- Schedule Changes and Flexibility
- Air Emissions Pre-Planning Aspects
- Water Resources Pre-Planning Aspects
- Prioritization, Scheduling, Communications
- Regulatory Compliance Resources



# Background and Overview

- There often seem to be a “ground hog day” effect when working on new construction projects
- These observations and thoughts draw upon the following types of common projects and situations
  - New facility construction (industrial and commercial clients)
  - Expansions at existing facilities
  - Implementation of large nationwide environmental programs
  - Installation of new production lines
- **The challenges discussed here are focused on those with environmental perspective**

# Background and Overview

- During periods of substantial growth there are many competing needs and obligations
- This heightened level of activity requires management teams to constantly track schedules, milestones, budgets, and quality.
- During this accelerated period of activity there is often mishaps and missed opportunities
- Changes to project team, client staff, project timeline, project scope all result in creating a dynamic situation

# Background and Overview

- As an EHS professional why look beyond 40 CFR?
  - Design and building aspects that could run contrary to regulatory requirements
  - Safer design and building requirements
  - Avoiding costly mis-steps from the project management / development team
  - Pre-planning for what actions and preparations are needed to address regulatory drivers
  - Recognizing early in the planning stages where constraints may result in significant project limitations

# Background and Overview – EPA Aspects

- Clean Air Act
  - Air Emission Source Permitting
  - Risk Management Planning
- RCRA
  - Characterization and management of both solid and hazardous waste
- Clean Water Act
  - NPDES Permits
  - Spill Prevention Control and Countermeasures
- EPCRA





# Background and Overview – OSHA Aspects

- Emergency Action Plan (29 CFR 1910.38(a))
- Emergency Response Plan (29 CFR 1910.120)
- Hazard Communications (28 CFR 1910.1200)
  - Communicating hazards of new chemicals
- Process Safety Management (29 CFR 1910.119)
  - HAZOP reviews
- Chemical Handling Safety
- Other specific OSHA standards



# Project Management Challenges

- Project timeline
  - Include environmental goals, all requirements, benchmarks
- Identification of all Project needs
  - Identify overall client, client rep
  - Identify staffing and project team
  - Resources and background information/data
  - Whom will receive and review drafts and deliverables
- Identifying all environmental obligations
  - Environmental Aspects and impacts review
  - What are the Significant Impacts
  - Are there considerations related to existing operations



# Project Management Challenges

## ➤ Milestones

- Benchmarks
- Reporting
- Submittal Dates
- Project closeout

## ➤ Team Composition

- During planning stages (Consultants, GC, Client, Developer, architects, subcontractors, others)
- During construction phases (GC, subcontractors, consultants)
- During turnover/startup
- Teams may be static or dynamic depending on project needs



# Project Management Challenges

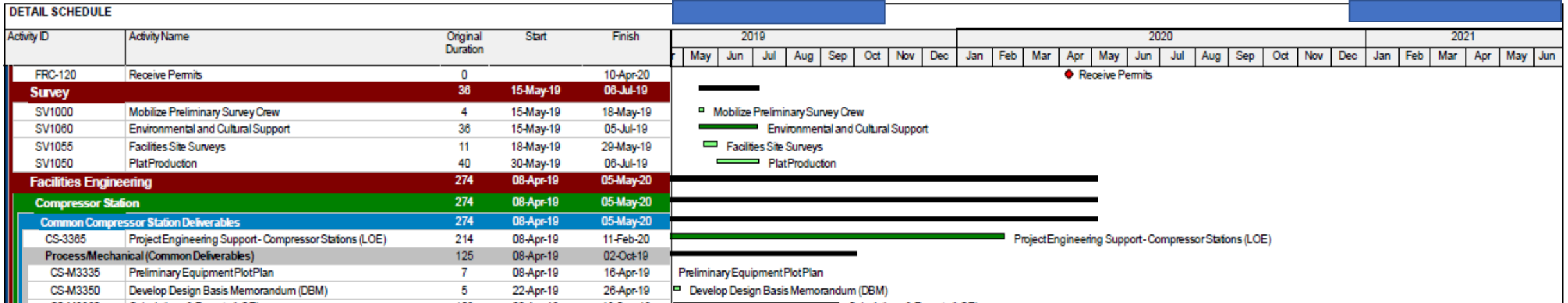
- Many regulatory drivers that are known, however always research applicable codes and requirements
- No one has a crystal ball, working with project team will allow more awareness of current requirements and forecast future drivers
- Stay abreast and current on federal and local requirements
- Internet searches, Code of Ordinances reviews, agency news updates, and other tools are available to identify applicable requirements

**DETAIL SCHEDULE**

Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020												2021					
					May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun				
<b>Major Milestones</b>		464	08-Apr-19	08-Feb-21																														
<b>FEED / PSC Milestones</b>		40	08-Apr-19	03-Jun-19																														
MM105	Project Start	0	08-Apr-19*	08-Apr-19	Project Start																													
MM120	FEED Kick-Off Meeting	1	10-Apr-19	10-Apr-19	FEED Kick-Off Meeting																													
MM135	Issue Draft IFR Design Documents	0		03-May-19	◆ Issue Draft IFR Design Documents																													
MM125	Site Visit	1	08-May-19*	08-May-19	◆ Site Visit																													
MM250	Confirm Site Location	0		07-May-19*	◆ Confirm Site Location																													
MM275	LLI List	0		10-May-19	◆ LLI List																													
MM260	Compressor Package Recommendation	0		21-May-19	◆ Compressor Package Recommendation																													
MM280	Overall Schedule (Level 2)	0		21-May-19	◆ Overall Schedule (Level 2)																													
MM285	TIC Estimate	0		29-May-19	◆ TIC Estimate																													
MM145	Issue Design Documents	0		03-Jun-19	◆ Issue Design Documents																													
<b>Detailed Design Milestones</b>		172	05-Jun-19	11-Feb-20																														
MM155	Draft Permit Application Submitted	0		05-Jun-19	◆ Draft Permit Application Submitted																													
MM185	Draft Environmental Impact Statement	0		03-Jul-19	◆ Draft Environmental Impact Statement																													
MM175	Design Proposal Accepted	0		15-Jul-19	◆ Design Proposal Accepted																													
MM130	Compressor Selection Complete	0		15-Jul-19	◆ Compressor Selection Complete																													
MM150	HAZID Complete	0		18-Jul-19	◆ HAZID Complete																													
MM115	Procurement & Inspection Specifications Complete	0		29-Jul-19	◆ Procurement & Inspection Specifications Complete																													
MM140	Long Lead Items Bid	0		13-Aug-19	◆ Long Lead Items Bid																													
MM240	3D Model Review - CU1	0		16-Aug-19	◆ 3D Model Review - CU1																													
MM142	LLI Bid Evaluation Complete	0		22-Aug-19	◆ LLI Bid Evaluation Complete																													
MM180	60% Construction Design Documents	0		11-Sep-19	◆ 60% Construction Design Documents																													
MM245	90% Construction Design Documents	0		09-Oct-19	◆ 90% Construction Design Documents																													
MM165	IFB Construction Design Documents	0		16-Oct-19	◆ IFB Construction Design Documents																													
MM180	Remaining Long Lead Items Ordered	0		28-Jan-20	◆ Remaining Long Lead Items Ordered																													
MM170	100% (IFC) Construction Design Documents	0		11-Feb-20	◆ 100% (IFC) Construction Design Documents																													
<b>Construction Milestones</b>		242	21-Feb-20	05-Feb-21																														
MM190	File Implementation Plan with PSC Regulatory	0		21-Feb-20	◆ File Implementation Plan with PSC Regulatory																													
MM195	Regulatory Certificate Issued	0		21-Feb-20	◆ Regulatory Certificate Issued																													
MM200	Issues Notice to Proceed (NTP)	0		08-May-20	◆ Issues Notice to Proceed (NTP)																													
MM210	Construction Mobilization	0	09-May-20	09-May-20	◆ Construction Mobilization																													
MM220	Construction Starts	0	19-May-20	19-May-20	◆ Construction Starts																													
MM205	Long Lead Equipment/Material Received	0		13-Aug-20	◆ Long Lead Equipment/Material Received																													
MM255	Compressors Received	0		17-Sep-20	◆ Compressors Received																													
MM225	Construction Ends	0		18-Nov-20	◆ Construction Ends																													
MM230	Commissioning Starts	0	19-Nov-20	19-Nov-20	◆ Commissioning Starts																													
MM235	Commissioning Ends	0		09-Dec-20	◆ Commissioning Ends																													
MM265	In-Service	0		08-Jan-21	◆ In-Service																													
MM270	As-Built Drawings Complete	0		05-Feb-21	◆ As-Built Drawings Complete																													
<b>Project Management, Administration &amp; Office Services</b>		214	08-Apr-19	11-Feb-20																														
P1020	Create Project PEP	10	08-Apr-19	19-Apr-19	Create Project PEP																													
P1035	Project Management (LOE)	214	08-Apr-19	11-Feb-20	Project Management (LOE)																													
P1040	Project Controls (LOE)	214	08-Apr-19	11-Feb-20	Project Controls (LOE)																													
P1045	Project Admin / Document Controls (LOE)	214	08-Apr-19	11-Feb-20	Project Admin / Document Controls (LOE)																													
P1060	Safety / QA-QC (LOE)	214	08-Apr-19	11-Feb-20	Safety / QA-QC (LOE)																													
P1065	Project Engineering Support (LOE)	214	08-Apr-19	11-Feb-20	Project Engineering Support (LOE)																													
P1015	Develop Detailed Project Schedule	26	11-Apr-19	16-May-19	Develop Detailed Project Schedule																													
P1010	Develop Design Basis Memorandum (DBM)	17	22-Apr-19	14-May-19	Develop Design Basis Memorandum (DBM)																													
P1025	HAZID	3	16-Jul-19	18-Jul-19	HAZID																													
<b>Permitting</b>		195	03-Jul-19	10-Apr-20																														
FRC-100	File Regulatory Application	0		03-Jul-19	◆ File Regulatory Application																													
FRC-110	Review Period	195	05-Jul-19	10-Apr-20	Review Period																													

**DRAFT**

# Project Management Challenges



- Only three lines in this example schedule relate to environmental
  - File Regulatory/Application
  - Review Permits
  - Receive Permits



# Schedule Changes and Flexibility

## ➤ Project Delays

- Weather impacts (e.g, construction SWPPPs, infrastructure buildout such as containment systems and coverings)
- Change in scope (addition of tanks, process components, emission sources)
- Change in team (new GC, new subcontractors, new team members associated with a particular project/deliverable)
- Supplier/material issues (wrong equipment, off spec items)



## ➤ Project Accelerations

- Business decisions to be ahead of market/customer demands
- Increased/decreased machinery, construction costs

# Schedule Changes and Flexibility

- Attempt to maintain a Dynamic Schedule
  - Build in buffers for allowing slippage of schedule
  - Most environmental deliverables are hinged upon “startup” date
  - Understand each environmental obligation required submittal date
  - Understand what “startup” means under each environmental deliverable (e.g. RMP, stormwater, air permitting, etc)
  - Adapt the various environmental obligations/needs to schedule revisions





# Communications

- Project goals
  - What, when, where, how, who
- Environmental aspects and impacts
  - What are the applicable environmental regulations and whom is responsible
  - Does everyone understand and know this?
- Timeline and Obligations
  - 180 days prior, 90 days prior, 30 days after
  - Make sure team members know target dates for drafts and final deliverables



# Prioritization

## ➤ Organizing environmental priorities

- What do you tackle first?
- Considerations include:
  - Submittal due date
  - Work involved with effort
  - Resources to start the work
  - Construction schedule



## ➤ Internal versus External Products

- Understand which products/deliverables have priority
- Internal would include items such as SOPs, training docs, compliance calendars
- External would consist of applications, NOIs, agency notifications
- External items may NOT always be higher priority

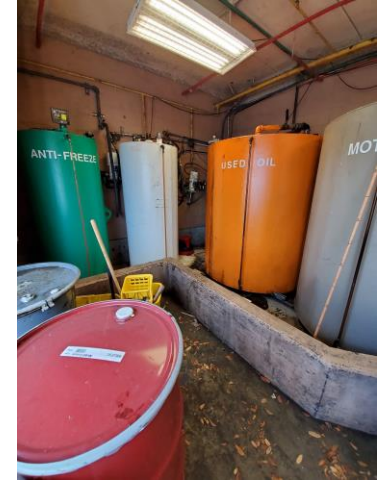
# Prioritization

- Corporate initiates versus local requirements
  - Will corporate policies/procedures be strictly adhered to (e.g. no outside washing activities, no open bins)
  - Are there site specific requirements/item that must be accommodated (e.g. BMPs, spill response and control procedures)
- Recognizing which work/projects should be outsourced or completed internally
  - Third party/consultant efforts (efficiencies, professional expertise, transfer of liability, no capacity for work)
  - Internal efforts (internal staffing with experience, capabilities, cost reduction, capacity for work)

# Common Oversights

## ➤ NFPA 30 and Fire Code

- Insufficient capacity for storage of flammable materials
- Improper spacing between bulk flammable storage
- Incorrectly specified materials for conveyance of flammable materials



## ➤ Post Construction

- Management of stormwater infrastructure
- Reporting and assessments not being completed
- Modifications and expansions that impact adjacent properties



# Common Oversights

## ➤ Transport of hazardous materials

- Self transport of hazardous materials
- Licensed carrier not properly placarding materials based on manifest

## ➤ Code and deed restrictions

- Exhaust stacks not properly positioned
- Heights of structures exceeding established limitations
- Proposed discharges not screened against allowable limits

# Regulatory Compliance Resources

- Federal Databases
  - EPA / ECHO
  - OSHA
- State Databases and Resources
  - Permitting Registry
  - Specific Media Databases
  - Environmental Agency Online Resources
- Third Party / Consulting Support
  - Online information
  - Lunch and Learns
  - Email Mailing Lists





# EPA – Online Information Resources

- Federal Environmental Regulatory Guidance and Rules
  - Extensive Guidance and Information available by topic or media
  - Rule backgrounds and summaries typically available
  - Listings of federal and state resources available

Environmental Topics | Laws & Regulations | Report a Violation | About EPA

CONTACT US

## Regulatory and Guidance Information By Topic

### Environmental Laws, Regulations and Guidance

EPA develops and enforces regulations that span many environmental topics, from acid rain reduction to wetlands restoration. Each topic listed below may include related laws and regulations, compliance and enforcement information, and policies and guidance.

[Regulatory information by sector](#) | [Learn about major environmental laws](#) | [Comment on proposed regulations](#)

#### Air Topics

Learn about Criteria Air Pollutants (lead, particulate matter, and others), ozone protection and refrigerants, transportation, engine emissions, and other air-related topics.

[Find more air topics](#)

#### Cross-cutting Issues

Asbestos, lead, EPA Certifications (608, 609, Lead, etc.), Per- and Polyfluoroalkyl Substances (PFAS), and other cross-cutting issues.

[Discover more cross-cutting issues](#)

#### Emergencies

Oil spills, Risk Management Plans (RMP), chemical reporting and other topics.

[Explore emergency topics](#)

# EPA – Environmental Compliance and History Online (ECHO)

- Federal Compliance Database
  - Ability to review contractor safety
  - Increase awareness of past issues
  - Identify incorrect and inconsistent federal understanding of your organization

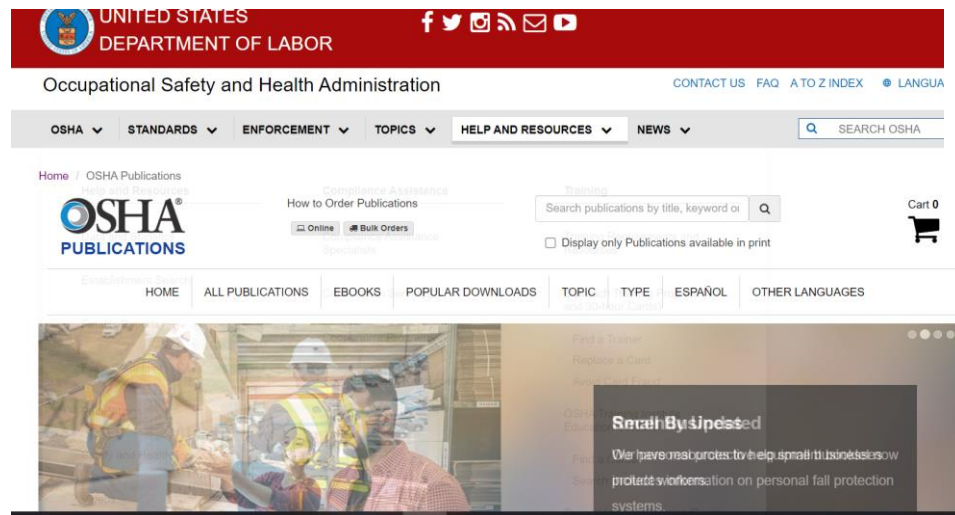
The screenshot displays the ECHO (Enforcement and Compliance History Online) website. The header includes the ECHO logo and the text "Enforcement and Compliance History Online" with links for "Login" and "Contact Us". A navigation sidebar on the left contains icons and labels for "Quick Search", "Search Options", "Analyze Trends", "Find EPA Cases", "Data Services", "Help", and "News". The main content area is titled "Quick Search" and features a search interface with two tabs: "Location" (selected) and "Facility Name/ID". Below the tabs is a text input field with the placeholder "Enter city, state, and/or zip code" and a "Search" button. A link for "More Search Options" is positioned below the input field. A descriptive paragraph states: "Use EPA's Enforcement and Compliance History Online website to search for facilities in your community to assess their compliance with environmental regulations. You can use ECHO to:" followed by a bulleted list of capabilities: "Search for Facilities", "Investigate Pollution Sources", "Search for EPA Enforcement Cases", "Examine and Create Enforcement-Related Maps", and "Analyze Trends in Compliance & Enforcement Data". To the right of the list are three icons with corresponding links: a book icon for "Read the Quick Start Guide", a video camera icon for "Watch a Video Tutorial", and a wrench icon for "Explore the Tool Guide".



# Occupational Safety and Health Administration (OSHA)

## ➤ Online Information and Resources

- Topic and Regulatory Summaries
- eTools, eMatrix



## eTools, eMatrix, Expert Advisors and v-Tools

eTools and the eMatrix are "stand-alone," interactive, Web-based training tools on occupational safety and health topics. They are highly illustrated and utilize graphical menus. Some also use expert system modules, which enable the user to answer questions, and receive reliable advice on how OSHA regulations apply to their work site. Expert Advisors are based solely on expert systems and v-Tools are prevention video training tools. Selected eTools are available as [downloadable](#) files for off-line use.

Other [training and reference materials](#) are also available from the OSHA Directorate of Training and Education (DTE). In addition, OSHA also has other training [videos](#) available.

### eTools

- Ammonia Refrigeration (08/2014)
- Battery Manufacturing (02/2004)
- Construction (08/2014) | Spanish (Translation Updated 02/2006)
- Electric Power Generation, Transmission, and Distribution (01/2010)
- Evacuation Plans and Procedures (09/2002)
- Hazard Identification (07/2014)
- Hospitals (09/2021)
- Lead: Secondary Lead Smelter (12/2002)
- Lockout/Tagout (09/1999)
- Logging (10/1998)
- Machine Guarding (06/2007)

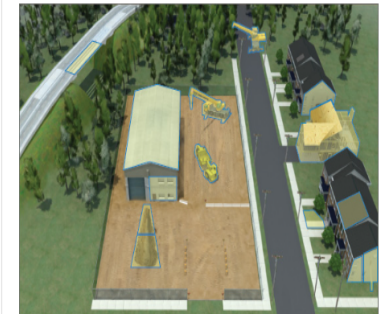
### Ergonomics-related eTools

- Baggage Handling (09/2003)
- Beverage Delivery (01/2001)
- Computer Workstations (08/2003)
- Electrical Contractors (07/2003)
- Grocery Warehousing (01/2001)
- Printing Industry (08/2006)
- Sewing (01/2001) | Spanish (10/2001)

### Expert Advisors

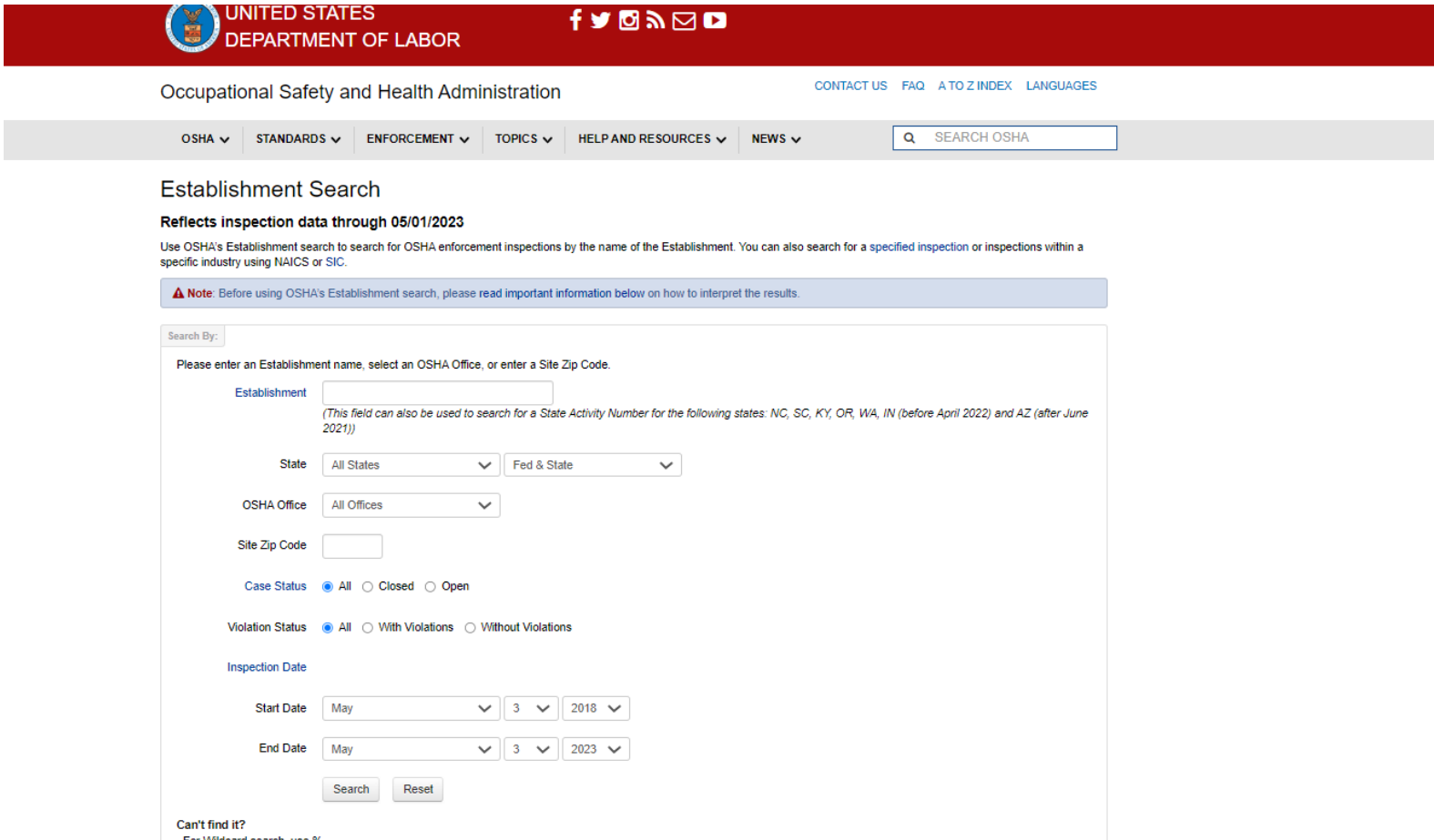
- Cadmium Biological Monitoring Advisor
- Confined Spaces
- Evacuation - Am I Required to have an

### Prevention Videos (v-Tools)



**Construction Hazards.** The videos show how quickly workers can be injured or killed on the job and are intended to assist those in the industry to identify, reduce, and eliminate construction-related hazards. Most of the videos are 2 to 4 minutes long, presented in clear, easily accessible vocabulary, and show common construction worksite activities. The videos may be used for employer and worker training.

# Occupational Safety and Health Administration (OSHA)



The screenshot shows the OSHA website's navigation bar with the United States Department of Labor logo and social media icons. Below the navigation bar is the "Occupational Safety and Health Administration" header with links for "CONTACT US", "FAQ", "A TO Z INDEX", and "LANGUAGES". A secondary navigation bar contains dropdown menus for "OSHA", "STANDARDS", "ENFORCEMENT", "TOPICS", "HELP AND RESOURCES", and "NEWS", along with a "SEARCH OSHA" input field.

The main content area is titled "Establishment Search" and includes a note: "Reflects inspection data through 05/01/2023". Below this is a brief description of the search function and a warning note: "Note: Before using OSHA's Establishment search, please read important information below on how to interpret the results."

The search form is titled "Search By:" and contains the following fields and options:

- Establishment:** A text input field with a note: "(This field can also be used to search for a State Activity Number for the following states: NC, SC, KY, OR, WA, IN (before April 2022) and AZ (after June 2021))".
- State:** Two dropdown menus, one for "All States" and one for "Fed & State".
- OSHA Office:** A dropdown menu for "All Offices".
- Site Zip Code:** A text input field.
- Case Status:** Radio buttons for "All" (selected), "Closed", and "Open".
- Violation Status:** Radio buttons for "All" (selected), "With Violations", and "Without Violations".
- Inspection Date:** Two date range selectors. The "Start Date" is set to "May 3, 2018" and the "End Date" is set to "May 3, 2023".

At the bottom of the form are "Search" and "Reset" buttons. A link "Can't find it? For more search tips" is located below the form.

- Violation and Inspection Database
  - Ability to review contractor safety
  - Increase awareness of past issues within your own organization

# State Databases and Resources



Protecting and Restoring Georgia's Environment



## eServices

### [GEOS](#)

Georgia EPD Online System

### [GEOS Training](#)

Training resources for the Georgia EPD Online System (GEOS)

### [GEOS Support Articles](#)

This section provides users of GEOS with information needed to effectively use the website to complete and submit permit applications and reports and to make financial payments to EPD.

### [GECO](#)

Georgia Environmental Connection Online

## Regulated Community

[Notice Terminating March 31, 2020 Guidance Regarding COVID-19 Implications for EPD's Compliance and Enforcement](#)

The Georgia Environmental Protection Division has many forms available for permit applications, release notifications, and various reporting forms.



➤ Information varies significantly by state and agency

- Regulatory Summaries
- Guidelines and pamphlets
- Small Business Resources
- Application submittal tools
- Searchable online databases

# Environmental Compliance Tools

## ➤ Tracking Tools

- Documented Lists
- Spreadsheet Tools
- Database Systems Tools

## ➤ Third Party Compliance Software

- Maximo
- Dakota
- Cority
- EHS Insight



# Environmental Compliance Tracking Tools

## ➤ Documented Lists

- Pros – Simple to setup
- Pros – Easy to update and maintain
- Pros – Accessible and shareable
  
- Cons – Static with no interaction
- Cons – Limited ability to capture/log events
- Cons – Formatting and manipulation of data limited



# Environmental Compliance Tracking Tools



## Spreadsheet Tools

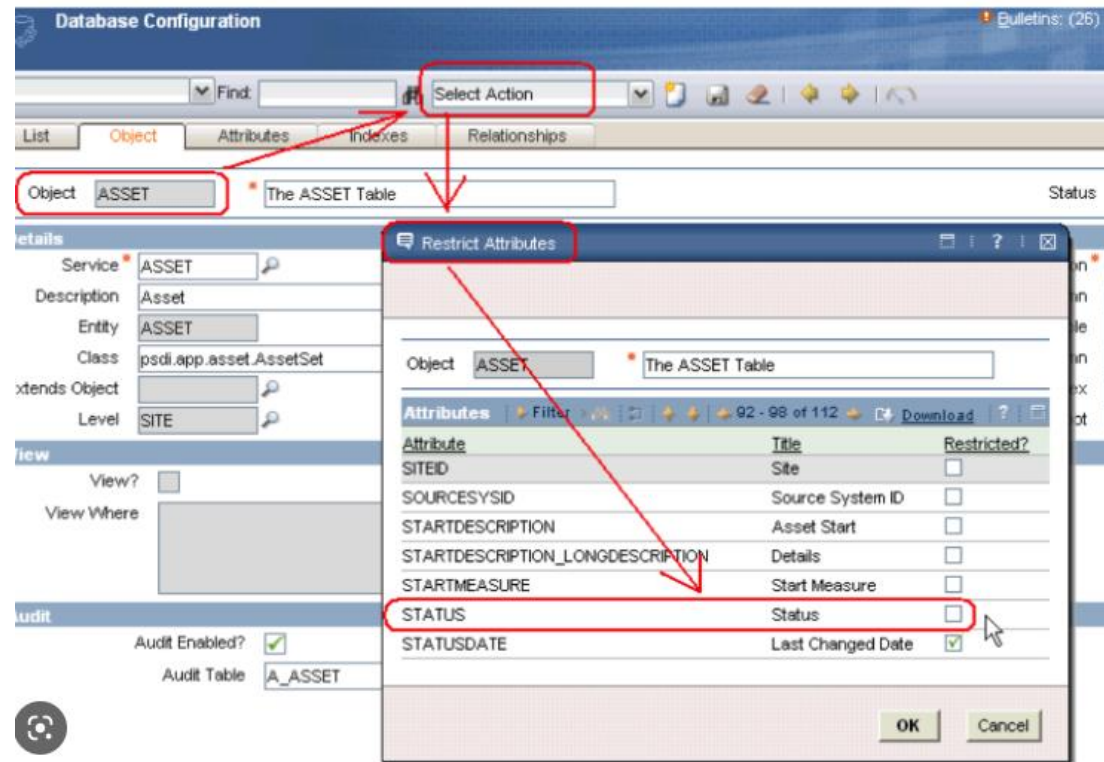
- Pros – Relatively Easy to Setup
- Pros – Macro Capabilities
- Pros – Easy to develop higher level trend charts and graphical outputs
- Cons – Restrictions on communicating and notifications (e.g. email notices)
- Cons – Developing automated reports and forms requires some effort

EHS Required Inspections and Permits			
		Completed	Due
<b>Smyrna</b>			
Annual Sprinkler/Risers	Empire Services	Aug-16-2013	Aug-31-2014
Annual Fire Extinguisher Service Check	Associated Fire Protection	Oct-23-2013	Oct-23-2014
Annual Fire Fire Hose Service/Integrity Check	(Hoses Tagged Out of Service)		
Annual Fire Door Tests	Complete/Document drop test	May-27-2014	May-31-2015
Annual Hearing Testing	Enviromed	Nov-19-2013	Nov-30-2014
Cobb County Fire Department Walkthrough	Cobb County Fire	Nov-20-2012	Nov-30-2013
Annual Fire/Evacuation Drill		Apr-3-2014	Mar-28-2015
Annual Fire/Evacuation Review			Sep-4-2014
Quarterly Fenwall Explosion System Inspection	Fenwall Rep	Feb-21-2014	Jun-28-2014
Annual Fenwall Explosion System Inspection		Feb-21-2014	Dec-31-2015
Annual LOTO Program Audit		Dec-9-2013	Dec-31-2014
Hot Water Heater Inspection (every 2 years)	Hartford Steam Boiler	Oct-4-2012	Oct-31-2014
Pressure Vessel Inspections/Registrations	Hartford Steam Boiler	Sep-14-2010	Oct-1-2014
DOT Haz Mat Registration 062713 002 005V	HM ID: 048464	Jun-28-2013	Jun-30-2014
Cobb Wastewater/Remediation Discharge Permit	No. 519	Jan-1-2014	Dec-31-2016
Cobb Wastewater Annual Inspection		Feb-7-2014	Mar-1-2015
Backflow Protection Test - sanitary wastewater		Oct-19-2013	Oct-19-2014
Routine PM and Inspections of Fenwall System	Apollo Maintenance Staff	Jan-11-2013	NA
Annual Storm water sample		Dec-2-2013	Dec-31-2014
Annual Haz Waste System Integrity Leak Test	Resolve Engineering	Aug-19-2013	Aug-31-2014
Smyrna Semi-Annual Haz Waste Emiss Sys Rev		Mar-17-2014	Aug-28-2014
GW Treatment Sys Carbon Replacement	(SVE and Breeze)	Dec-6-2013	Dec-31-2014
Smyrna Air Stripper Clean out		Jun-8-2013	Jun-30-2014
Annual PID and Noise Meter Calibrations	Pine Environmental	Jan-9-2014	Jan-31-2015
Annual bonding/grounding test			Dec-31-2013
Smyrna Air Permit PRV Fugitive Emiss Test	Resolve Engineering	Jan-25-2014	Jun-28-2014
RPM (Propane storage) Op Procedure Certification	Annually	Dec-9-2013	Dec-31-2014
RPM/PSM (Propane storage) Compliance Audit	Every three years	Nov-29-2012	Nov-30-2015
RPM/PSM (Propane storage) Refresher Training	Every three years	Feb-11-2013	Feb-11-2016
RPM (Propane storage) Program/PHA Review	Every five years	Nov-29-2012	Nov-29-2017
PSM Review, Checklist, Certification	Annually	Dec-9-2013	Dec-30-2014
Propane Tank #1 PRVs (12000 gal NP70)	Two (2) 3" Reqs, Part# 7534G	Jul-12-2007	Every 10 yrs
Propane Tank #2 PRVs (12000 gal 152a)	Two (2) 3" Reqs, Part# 7534G	Jul-12-2007	Every 10 yrs
Propane Tank #3 PRV (5500 gal A31)	Two (2) 2" BPS, Part# N674	Apr-24-2014	Every 10 yrs
Propane Tank #4 PRV (5500 gal DME)	2" Burns, Y-09166	Oct-2-2013	Every 10 yrs
Propane Tank #5 PRV (5500 gal NP-46)	Two (2) 2" BPS, Part# N674	May-2-2014	Every 10 yrs
Propane Tank #6 PRV (1000 gal A108)	1-1/4" Burns w KALREZ SEAL	Feb-1-2011	Every 10 yrs
Propane Tank #7 PRV (1000 gal A108)	1-1/4" Burns w KALREZ SEAL	Aug-20-2008	Every 10 yrs
Propane Tank #8 PRV (1000 gal A108)	1-1/4" Burns w KALREZ SEAL	Aug-20-2008	Every 10 yrs
Propane Tank #9 PRV (1000 gal 134a)	1-1/4" Burns w KALREZ SEAL	Aug-20-2008	Every 10 yrs
Propane Tank #10 PRV (1000 gal A108)	1-1/4" Burns (BPS), Part# N674	May-2-2014	Every 10 yrs

# Environmental Compliance Management Software

➤ Third Party Compliance Environmental Management Software

➤ Scheduling and Maintenance Software



IBM Maximo Application Suite Software Reviews, Demo & Pricing - 2023

Images may be subject to copyright. [Learn More](#)

# Environmental Compliance Tracking Tools

- Database Systems Tools
  - Pros – Can easily manage large sets of data
  - Pros – Many options available for reporting and input form development
  - Pros – Most software allows for ability to transfer databases between platforms
  - Cons – Extensive effort to Setup and Build Database



# Closing Thoughts

- Identify all aspects at beginning of project and be prepared to add
- Allow time, then extra time, to pull together drafts and final deliverables
- Be cautious of becoming overly ambitious, some tasks can and should be pursued later in the process
- Information and knowledge is well documented and easily accessible
- Focus additional efforts on the higher risk concerns and consider using enhanced review tools and techniques (e.g. MOC, PSSR, HAZOP, etc.)
- Establish a process and project framework and be prepared to change it, and hopefully not abandon it!

Questions?