
EHSMS Seminar Series

Plan, Do, Check & Act

Discovery, Prioritization & Mitigation Strategies
Environmental Health & Safety Management System

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For:
Departmental EH&S Committee
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Presentation: November 12, 2015



Introduction

Land Grant Universities

As work settings, the land grant missions of KSU are very unique places of work within the University due to teaching, research and extension activities that occur in laboratories, greenhouses, farms and field sites in Manhattan and at locations throughout the state.¹

In this environment, there is the potential for simultaneous exposures to a variety of hazard types, such as:

|| Physical || Electrical || Fire || Chemical ||
|| Radiological || Biological || Thermal || Vehicular ||

And a diverse population of students, faculty, staff and visitors.

¹Source: J. Ernest Minton



Introduction

COA EH&S Office: Roles and Responsibilities

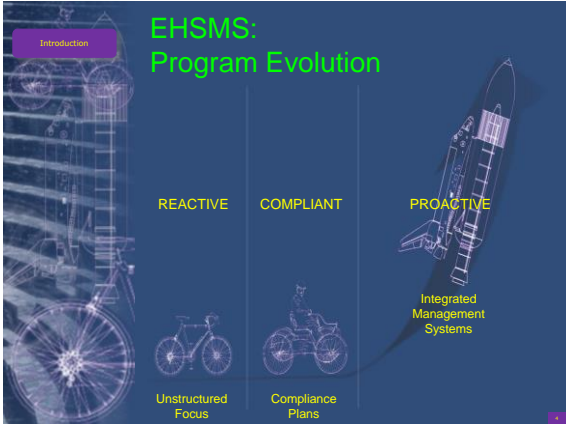
Overarching

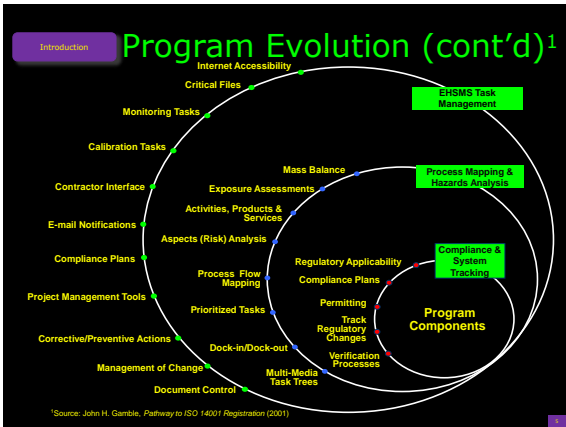
- Permits/Licenses/Registrations
 - Regulatory Applicability Matrix
- Purchasing
 - Design for Environment
- Design/Build/Backfill Input
 - EH&S Design Standards
 - A/E Reviews
- Regulatory Requirements
 - Evergreen attention to regulations
 - Coordinate third party inspections
- Business Reviews
 - Leverage EH&S against Core Values/COA Mission
- External Facing Customers

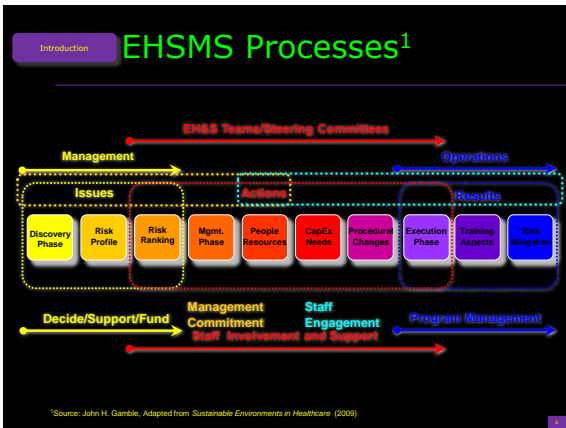
Area Specific

- Aspects and Hazards Assessment
 - Establish Objectives & Targets
- Standards of Practice
 - Develop/Facilitate/Coordinate
- Training
 - New employee orientation
 - Regulatory, e.g., WPS
- Lab/Field/Product Assessments
 - Conduct
 - Facilitate/Coordinate self-assessments
- Documentation
 - Centralized dBase
 - Web site
- EH&S Committees
- Management Reviews
 - Ownership/Accountability










Introduction

From Chemical Safety Board findings (Oct. 19, 2011):

- Physical hazard risks of research were not effectively assessed, planned for, or mitigated
- University lacked safety management accountability and oversight
- Previous incidents with preventative lessons were not documented, tracked and formally communicated



https://www.youtube.com/watch?v=sjDdl_d8br8


Texas Tech: explosion and injury to grad student on 01.07.10

Introduction

Elements of Strong Safety (EH&S) Cultures¹

- Leadership:** Responsibility and accountability for safety must be clearly defined from the highest level down to individual faculty and staff. Leading by example is a requirement!
- Strong safety attitudes, awareness and ethics:** Strong positive attitudes about safety require long-term efforts through continuous emphasis on safety.
- Learning from laboratory incidents:** Studies of incidents capture interest and teach lessons...implement a system of reporting and investigating incidents.
- Establishing collaborative relationships:** Safety culture requires close, trusting collaborations among all members of the academic and supportive staff, students and emergency responders.
- Promoting and communicating safety:** Demonstrating safety practices through personal example and recognizing positive safety behaviors are important ways to promote safety. Safety should be reinforced through continuous and diverse efforts.
- Strong safety programs require funding:** All strong safety programs require investment of substantial effort with adequate and continuous funding.

¹Source: Creating Safety Cultures in Academic Institutions, ACS (2012)
<https://www.youtube.com/watch?v=N6esWJg6Cs>




Lab/Field Safety

EH&S Management System Processes

- Support, Engagement and Ownership** of the program(s)
 - Top down
 - Bottom-up
- Assessments** lay the foundation for the learning and quality improvement effort around reducing accidents/environmental incidents
 - Outcome driven EH&S inspections
 - PI supported self-inspections
- Training** in the labs
 - New hire(s)
 - General lab safety practices
 - Task specific
- Documentation** of the program elements
 - JSAs
 - Plans
 - Protocols

<http://www.ksre.k-state.edu/agsafe/>



General Safety Equipment



Safety Practices: DO



Safety Practices: DO NOT



Program Strengths

- **Compliance** is central to some programs areas, e.g., WPS
- Generally, there is **strong interest** in EH&S
- There is some **faculty and staff engagement** in delivering improved performance
- Some Departments are sharing **best management approaches** with other Departments
- There is some **continued oversight** of EH&S practices in the labs, shops, greenhouses and field operations
- **Online and live EH&S training** is available for faculty, staff and students



Opportunities for Improvement

- **KSU/COA needs to improve its culture of safety, which will depend on:**
 - Strong commitment from administration through words and deeds
 - Active engagement of faculty and staff
 - Service-oriented, collaborative approach by EH&S
 - Researchers performing in a responsible, conscientious and safe manner
- **KSU/COA EH&S Standards of Practice needs updating to establish succinct roles and a clear opportunities for improving the risk resolution process**
- **EH&S needs to go from a just-in-time approach to a pro-active one by:**
 - Becoming an in-house consultant for researchers
 - Developing Standards of Practice that can then be tailored to individual labs
 - Partnering with PI's and Departments to develop safety training programs and lab safety plans
 - Assigning EH&S staff to buildings, to build relationships with individual labs
 - Revamping its web site to be a user-centered, repository of information
- **Safety training needs to be tailored to each area, of high-quality, recorded in a database and available as in-person + online sessions**
- **Needed is a centralized repository containing compliance and training information**



Overcoming Barriers

- **Costs** → Apply for grants; Consider cost avoidance; Conduct a total lifecycle cost analysis (ownership) of major products and services
- **Space** → Consider off-site materials management systems; just-in-time delivery
- **Accidents/Incidents** → Be diligent about honing in on lessons learned, every time and all the time
- **Coordination** → Identify an individual or group to champion and lead the program initiatives; Establish an EH&S committee
- **Employee Involvement** → Add to position description; Establish goals; Become active team members; Consistently report progress
- **Management Support** → Use self-assessment tools we can provide you to quantify the business value of your existing EH&S programs and practices.



What's in it for you?

Ownership in a culture and a **work environment** that ...

- Is proactive, not reactive
- Is outcome, metric focused
- Focuses on risk, not minimum compliance requirements
- Integrates good EH&S work practices into daily activities
- Reduces the likelihood of injuries and environmental incidents
- Doesn't look the other way when risky behavior or conditions exist
- Provides you, your staff and students a safe and sound finish to a work day!

