Building and Promoting Safety Management Systems in the Federal Government

Rachel A. Meidl, D.LP., MEPM, CHMM

Deputy Associate Administrator

Office of Hazardous Materials Safety

Pipeline and Hazardous Materials Safety Administration (PHMSA)

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Reinforcements

- Need to know the *"why"* (Larry Gibbs)
  - Reinforce positive safety culture
- *"Make safety a habit"* (Robert Hill, Jr.)
  - Make workplace safety second nature
- *"It starts with education"* (Monona Rossol)
  - How awareness and drive to learn can influence the field of chemical safety
- *"Safety is a shared responsibility."* (Vanessa Sutherland)
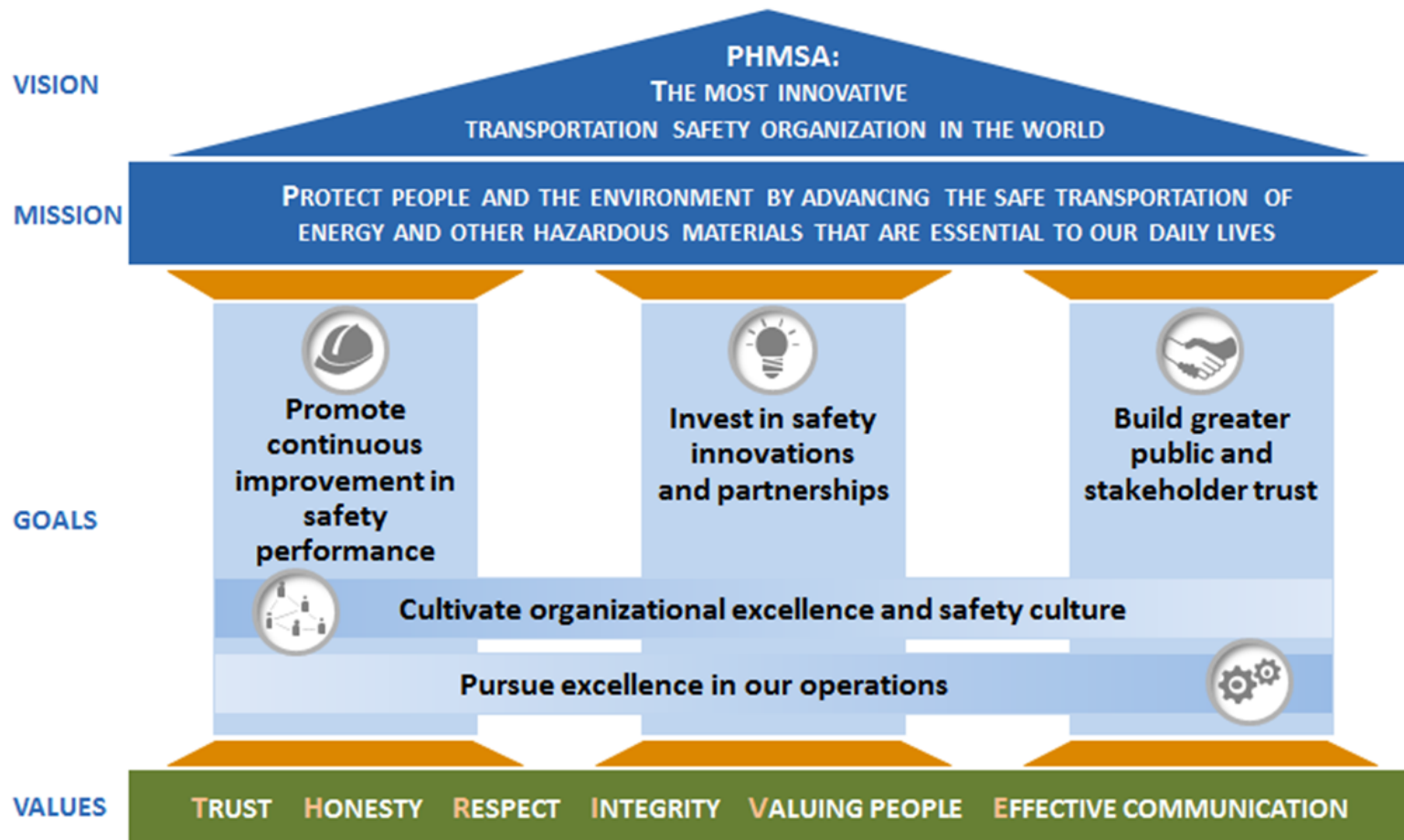
Process Safety in Academia

Academic laboratories are unique environments

Risks perceived as lower than large-scale process industry operations

Current standards on **hazard evaluations**, **risk assessments**, and **hazard mitigation** not fully transferable to academic environment

PHMSA Strategic Plan

VISION

PHMSA: THE MOST INNOVATIVE TRANSPORTATION SAFETY ORGANIZATION IN THE WORLD

MISSION

PROTECT PEOPLE AND THE ENVIRONMENT BY ADVANCING THE SAFE TRANSPORTATION OF ENERGY AND OTHER HAZARDOUS MATERIALS THAT ARE ESSENTIAL TO OUR DAILY LIVES

GOALS

Promote continuous improvement in safety performance

Invest in safety innovations and partnerships

Build greater public and stakeholder trust

Cultivate organizational excellence and safety culture

Pursue excellence in our operations

VALUES

TRUST   HONESTY   RESPECT   INTEGRITY   VALUING PEOPLE   EFFECTIVE COMMUNICATION

What is Safety?

- Is safety – zero accidents/incidents, regulatory compliance, error avoidance, …?
- Safety is **not equivalent to risk free** (U.S. Supreme Court, 1980)
  - elimination of accidents and serious incidents is unachievable
  - failures will occur, in spite of the most accomplished prevention efforts
- Safety management has shifted from prescriptive legislation, to an approach that focuses on <u>an organization taking responsibility for management of its own unique risk profile</u>

What is SMS?

A safety management system (SMS) can be defined as a *planned*, *documented* and *verifiable* method of managing hazards and associated risks.

SMS recognizes the *importance of leadership and organizational culture* in ensuring that safety policies, rules, and business practices are effectively *implemented* and *continuously improved*.

SMS is a **better way of doing our traditional business** that includes continuous improvement.

PHMSA SMS Principles

- ✓ **Management commitment** to safety
- ✓ Value, maintain, and operate **risk management processes**
- ✓ **Assess** processes and procedures and validate systems
- ✓ **Measure** and assess **safety performance indicators** and targets
- ✓ **Leverage emerging trends**, metrics, investigations and inspections
- ✓ Empower and **invest in our people** to advance our mission.
- ✓ Internal and external **collaboration and communication**

Where will SMS take PHMSA?

Reactive –> Proactive -> Predictive

01 REACTIVE
Develops strategies that respond to past incidents and accidents

02 PROACTIVE
Actively collects data to identify and address current hazardous conditions

03 PREDICTIVE
Systematically analyzes safety risk data and performs forward-looking data analytics to identify potential/future problems
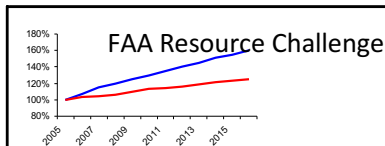
PAST

PRESENT

FUTURE

Challenges and Drivers in Federal Government

Drivers

FAA Resource Challenge

180%
160%
140%
120%
100%
80%

2005 2007 2009 2011 2013 2015

Oversight demand grows faster than available resources

United States Government Accountability Office

GAO Report to Congressional Requesters

September 2005

AVIATION SAFETY

System Safety Approach Needs Further Integration into FAA's Oversight of Airlines

ICAO requirements for implementation of a risk-based Safety Program (i.e., SMS)

GAO and OIG find structural concerns in current oversight methodologies

Challenges

▶ ***NTSB oversight recommendations*** drive changes to the current oversight practices built around narrow regulatory compliance focus

▶ ***Reactive approach*** only addresses previous accidents. Current compliance practices are in reaction to the "last accident."

▶ **Domestic harmonization** with international regulations—United Nations ICAO

▶ ***Innovative hazmat transportation*** operations require different approach. Industry moving ahead of government.

▶ ***Transitions—change in Administrations and political parties.***
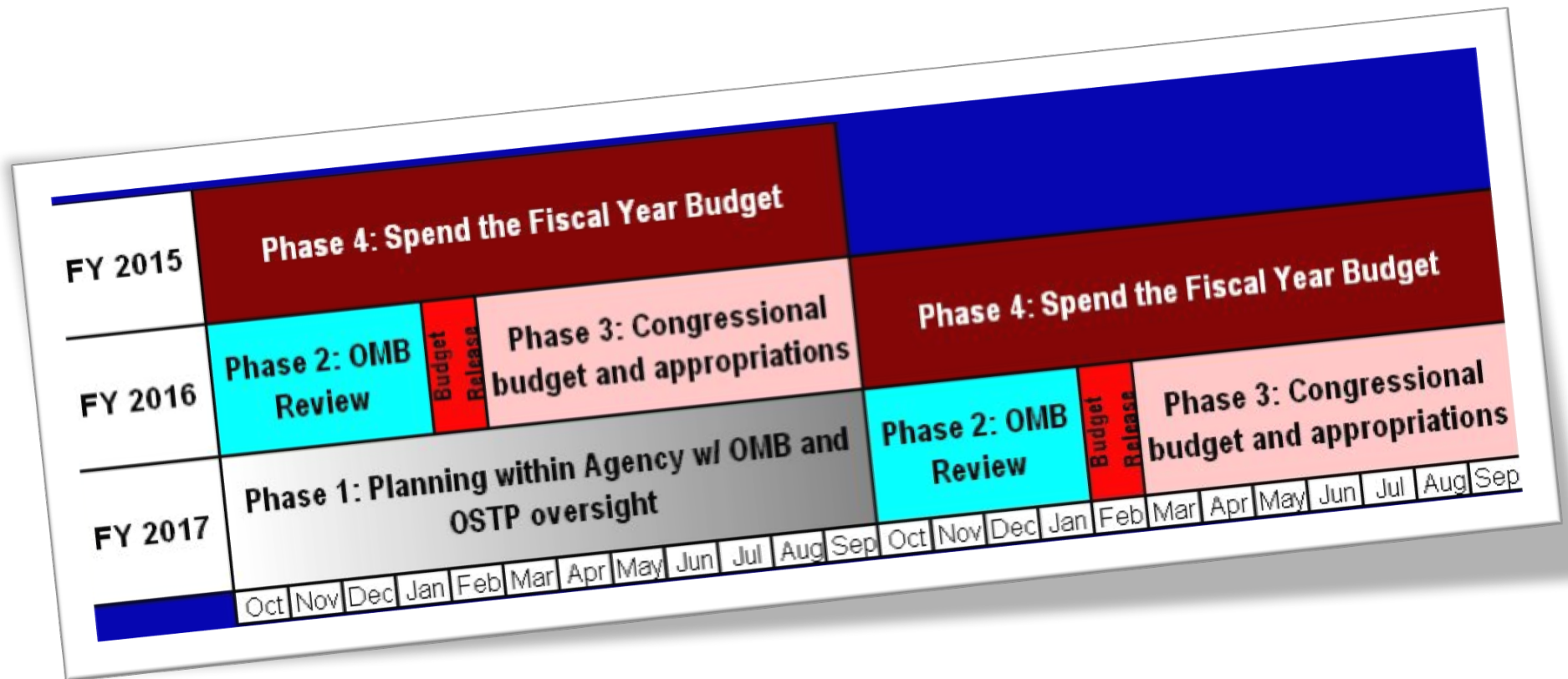
Administration Transitions

- Changing administrations and political parties
- New politicals and incoming leadership may have very different priorities
  - Former agenda becomes obsolete
- Intersection between science and politics
  - Impacts to safety
- Executive Orders

Challenge: Federal Budget Cycle

Operational Challenges/Opportunities

- Constrained workforce resources
- Reduced institutional knowledge with retirement of staff/inspectors
- Deficient Field Operations Manual
- Lack of SOPs (HQ and Fields Ops)
- Data gaps/insufficient data
- Lack of KPI's and performance measures
- Accountability
- Competing priorities (rulemakings, congressional mandates, R&D, outreach, enforcement, international negotiations, etc.)

"We need to create a safety culture…you already have one—it's just deficient."

What are the elements of SMS?

Safety Assurance: Voluntary Compliance System

- Compliment the current structure of the Systems Integrity Safety Program (SISP)
  - Reduced schedule for routine inspections
- Focus inspection staff on higher risk companies
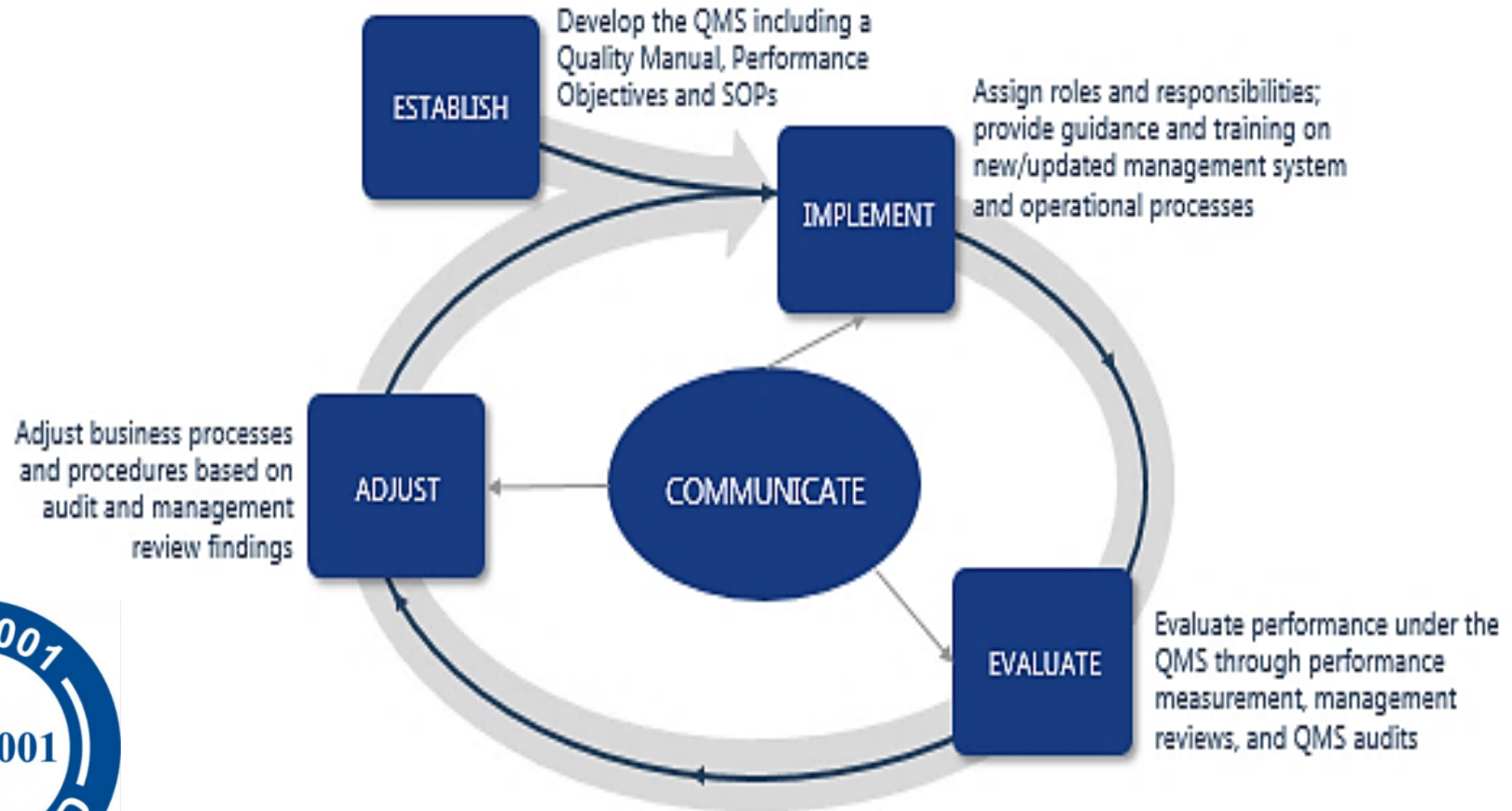- By 2019, Voluntary Compliance System criteria established

Safety Promotion: Employee Development/Cross-Training

- **Cross-training program:** employees visit HQ and Field Offices to foster working relationships and to gain a better understanding of the various job functions.
  - Field employees rotate through the six divisions; HQ rotate to five Field Offices
- **Exchange Program/Detail Opportunity**
  - Employees apply for "internship" or detail for 3-12 months to any of the PHMSA lines of business
- **HMSAT**: Reorganization and Redirection
- **Shared Fellows Program (Future)**
  - Partnership with other Federal agencies, academia, and industry
  - Fellows participate in investigations, enforcement actions, and other projects with attorneys, investigators, and policy analysts, scientists, economists.

Data Operations ISO-9001:2015 Certification

ESTABLISH

Develop the QMS including a Quality Manual, Performance Objectives and SOPs

IMPLEMENT

Assign roles and responsibilities; provide guidance and training on new/updated management system and operational processes

ADJUST

Adjust business processes and procedures based on audit and management review findings

COMMUNICATE

EVALUATE

Evaluate performance under the QMS through performance measurement, management reviews, and QMS audits

ISO 9001
ISO 9001
CERTIFIED

U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

To Protect People and the Environment From the Risks of Hazardous Materials Transportation

Comprehensive

Intuitive

Innovative

Flexible

HAZMATICS
HAZARDOUS MATERIALS INCIDENT COMMUNICATION SYSTEM

Thank you!