CORESAFETY
Committed to Excellence in Mining Safety

NMA/NRC Uranium Recovery Workshop

May 3, 2012
Denver, CO

CORESAFETY
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- What is **CORESafety?**
- Why do we need **CORESafety**?
- How does **CORESafety** work?
- What is next for my company and **CORES**afety?

What is CORESafety?

•**CORESafety** is a **framework** companies use to design and implement safety and health management systems appropriate for individual worksites or to integrate into existing S&H management systems.

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- **CORESafety** is based on three core organizational competencies:
  - **Leadership**
  - **Safety and health management**
  - **Assurance**

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- **Leadership**
- **Safety and health management**
- **Assurance**

•**CORESafety** is a system designed specifically for U.S. mining by mine safety professionals.

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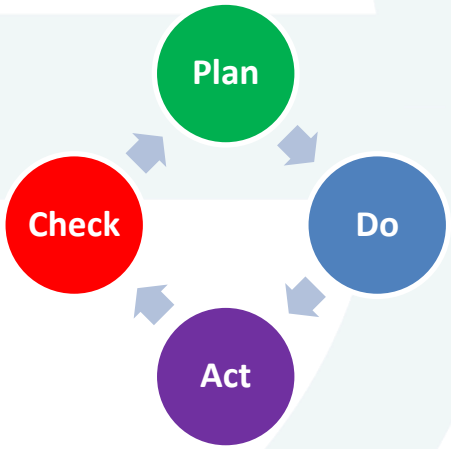
  - **Leadership**
  - **Safety and health management**
  - **Assurance**
- **CORESafety** is specifically designed for U.S. mining.

- **CORESafety** is managed through continual improvement principles:



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Leadership

- Leadership Development
- Responsibility & Accountability
- Culture Enhancement
- Collaboration & Communication
- Reinforcement & Recognition
- Resources & Planning
- Management System Coordination

Systems Management

- Fatality Prevention/Risk Management
- Change Management
- Engineering & Construction
- Safe Work Procedures & Permits
- Training & Competence
- Occupational Health
- Behavior Optimization
- Incident Reporting & Investigation
- Contract Management & Procurement
- Emergency Management

Assurance

- S&H Management Assurance
- Audit & Review
- Documentation & Information Management

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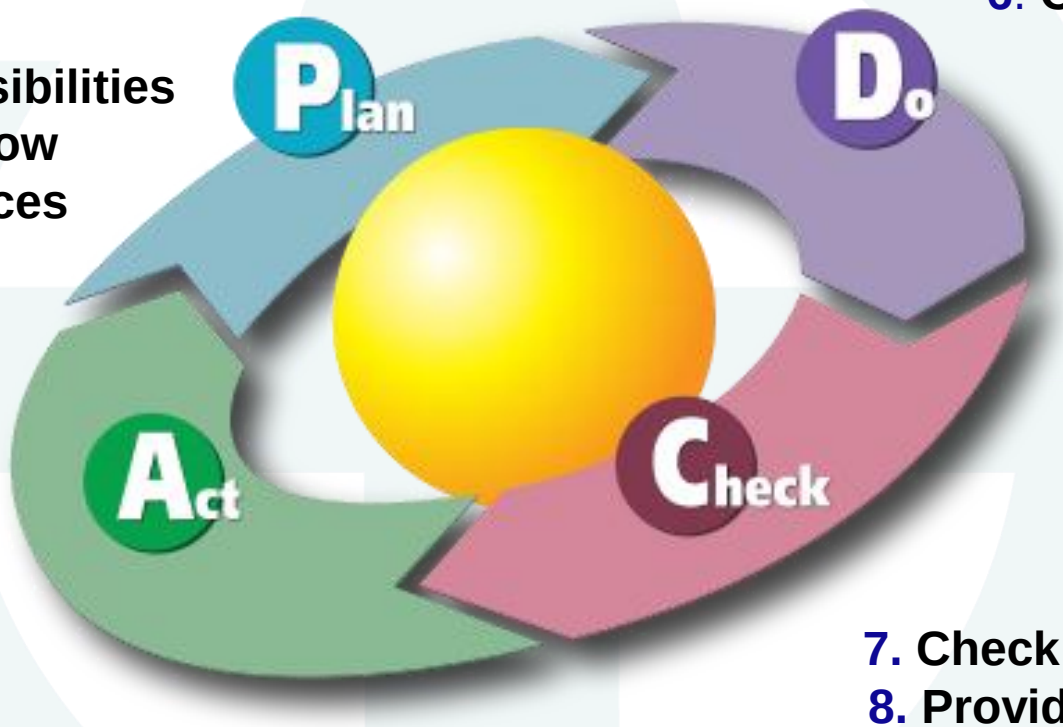
Why do we need CORESafety?

- To drive long-term improvement in safety and health performance
  - Long- term (5-year) safety performance (fatalities) has plateaued
- U.S. mining taking control of its own destiny
- The best path to 0:50:5 according to safety experts
- A proven record of performance improvement in mining and other industries
- To supplement current safety and health management systems
- To improve regulatory compliance

Benchmarked others to achieve goal of zero fatalities and 50 percent reduction in the rate of injuries within five years:

- U.S. and international mining companies
- U.S. nuclear power industry (INPO)
- Commercial & civil aviation
- Offshore oil development industry
- Large and small-scale chemical industry companies

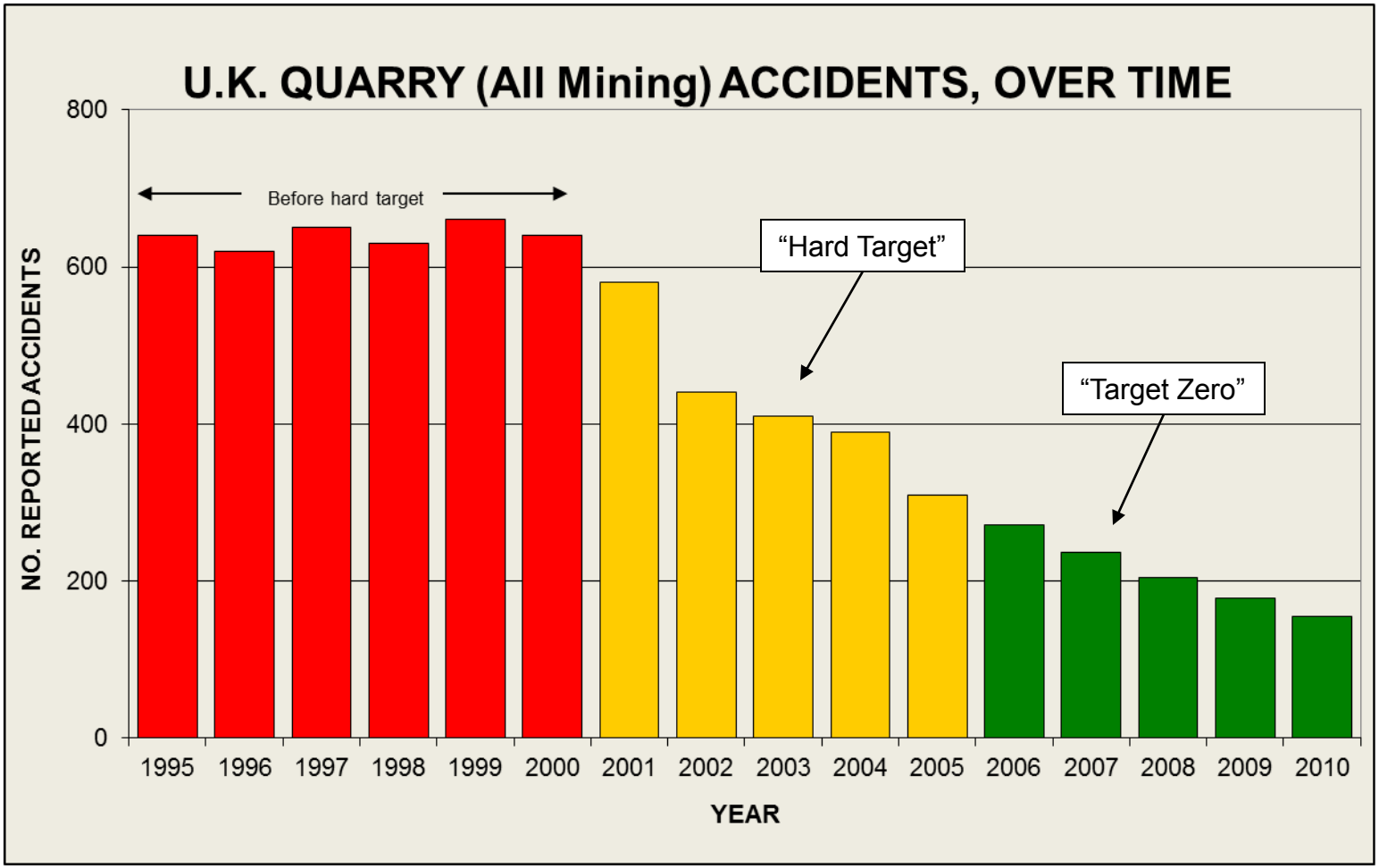
1. Set goal/objective
2. Define tasks
3. Assign responsibilities
4. Ensure know how
5. Provide resources



6. Conduct work

7. Check progress
8. Provide feedback

9. Performance evaluation
10. Apply consequences


U.K. QUARRY (All Mining) ACCIDENTS, OVER TIME
NO. REPORTED ACCIDENTS
800
600
400
200
0
Before hard target
"Hard Target"
"Target Zero"
1995
1996
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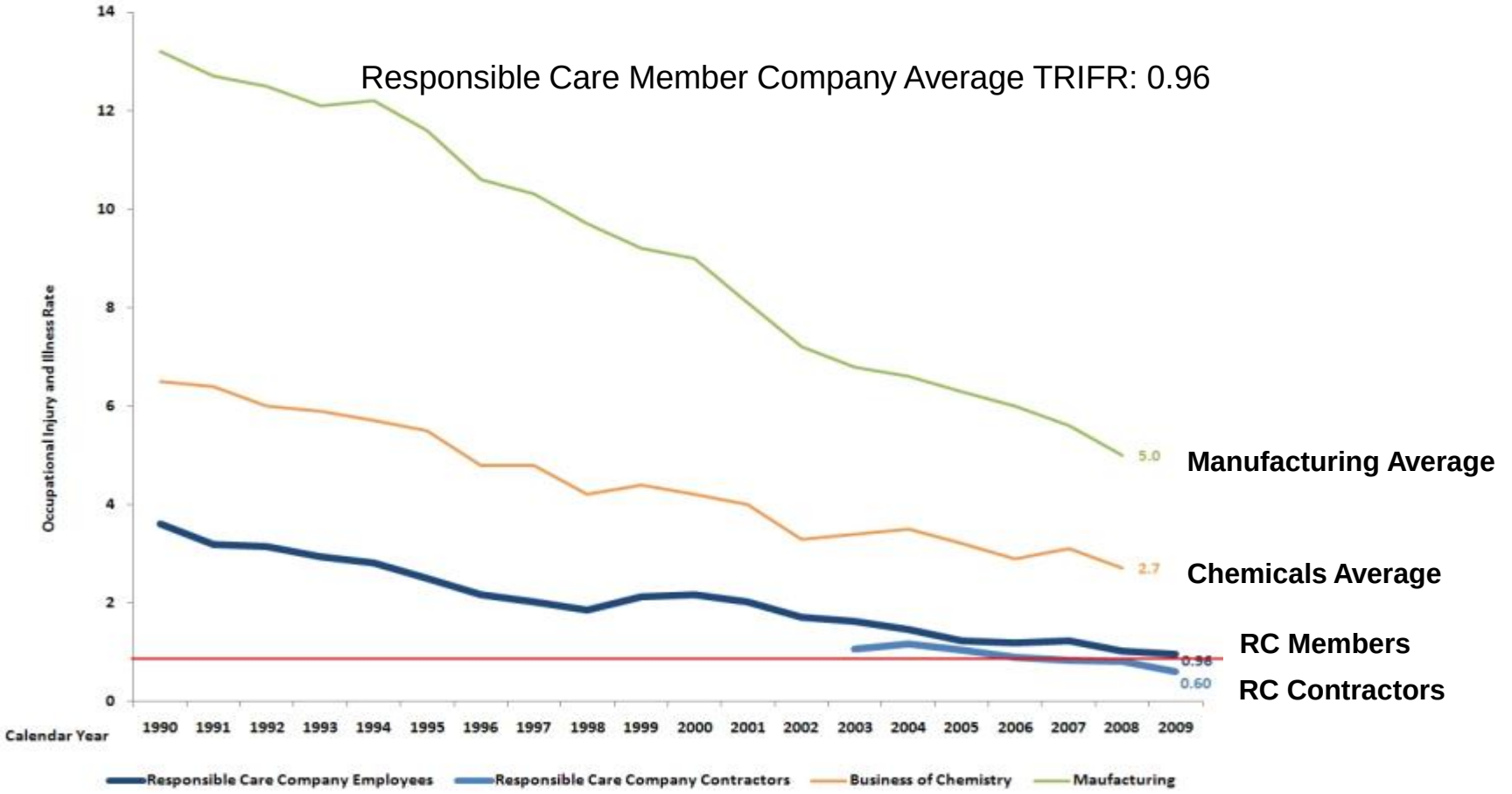
2010
YEAR

Responsible Care vs. Industry 1990 - 2008



RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

"It's amazing what we accomplished once our members began to see Responsible Care as an opportunity and not a threat. It was like bringing in a new more effective playbook at half time." Debra Phillips, Managing Director, Responsible Care, American Chemistry Council (ACC)

"We need a holistic approach to safety that allows us to spot trends and make necessary changes to help ***avoid*** *incidents and accidents. . .safety management systems are a critical piece of a successful safety management culture."* Randy Babbitt, FAA Administrator

How does CORESafety work?

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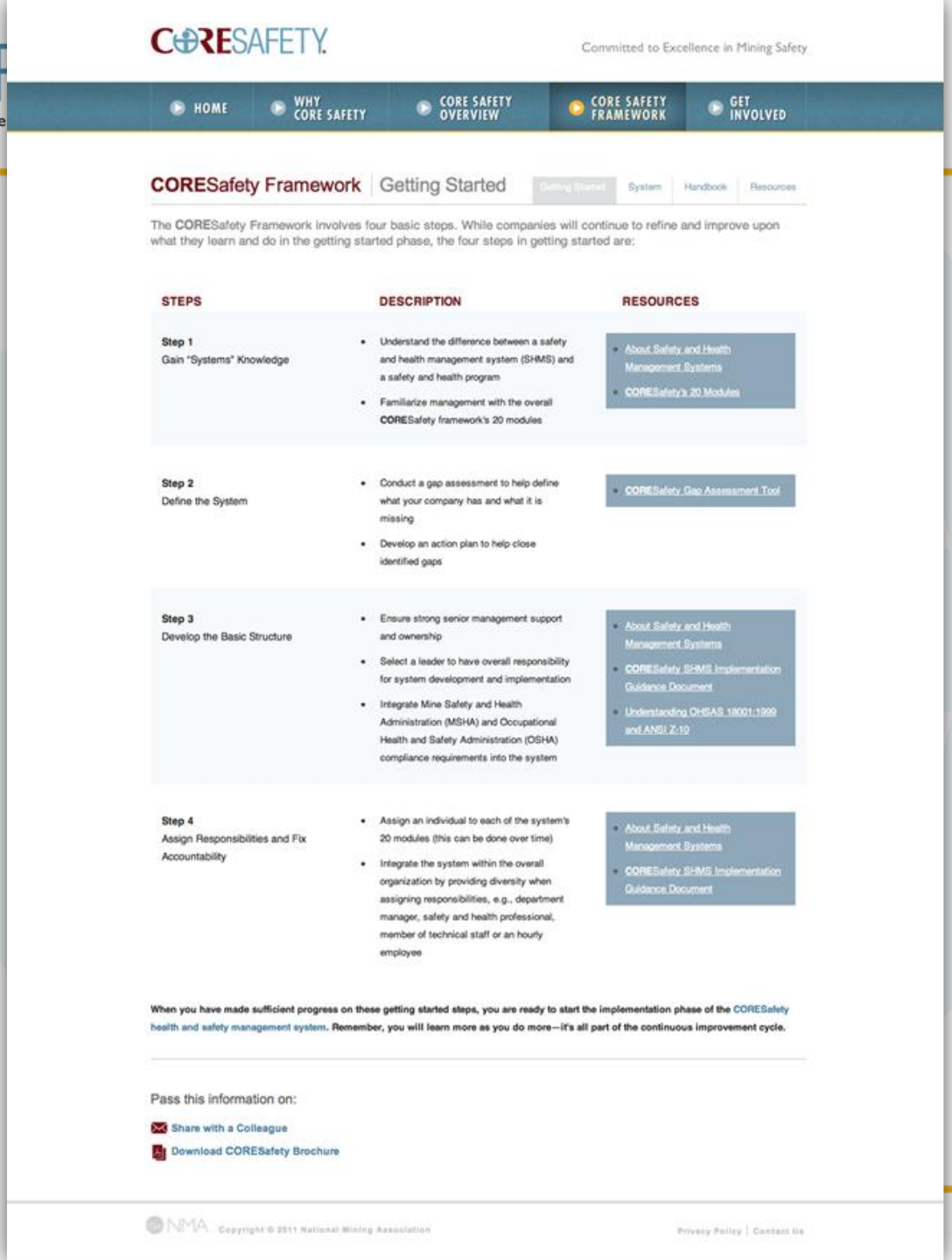

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CORESafety Framework | Getting Started

Getting Started | System | Handbook | Resources

The CORESafety Framework involves four basic steps. While companies will continue to refine and improve upon what they learn and do in the getting started phase, the four steps in getting started are:

STEPS	DESCRIPTION	RESOURCES
Step 1 Gain "Systems" Knowledge	• Understand the difference between a safety and health management system (SHMS) and a safety and health program • Familiarize management with the overall CORESafety framework's 20 modules	• About Safety and Health Management Systems • CORESafety's 20 Modules
Step 2 Define the System	• Conduct a gap assessment to help define what your company has and what it is missing • Develop an action plan to help close identified gaps	• CORESafety Gap Assessment Tool
Step 3 Develop the Basic Structure	• Ensure strong senior management support and ownership • Select a leader to have overall responsibility for system development and implementation • Integrate Mine Safety and Health Administration (MSHA) and Occupational Health and Safety Administration (OSHA) compliance requirements into the system	• About Safety and Health Management Systems • CORESafety SHMS Implementation Guidance Document • Understanding OHSAS 18001:1999 and ANSI Z-10
Step 4 Assign Responsibilities and Fix Accountability	• Assign an individual to each of the system's 20 modules (this can be done over time) • Integrate the system within the overall organization by providing diversity when assigning responsibilities, e.g., department manager, safety and health professional, member of technical staff or an hourly employee	• About Safety and Health Management Systems • CORESafety SHMS Implementation Guidance Document

When you have made sufficient progress on these getting started steps, you are ready to start the implementation phase of the CORESafety health and safety management system. Remember, you will learn more as you do more—it's all part of the continuous improvement cycle.

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Download CORESafety Brochure

Getting Started:

Step 1 Gain "Systems" Knowledge

- Understand the difference between a system and a program
- Familiarize management with the **CORESafety** framework's 20 modules

Step 2 Define the System

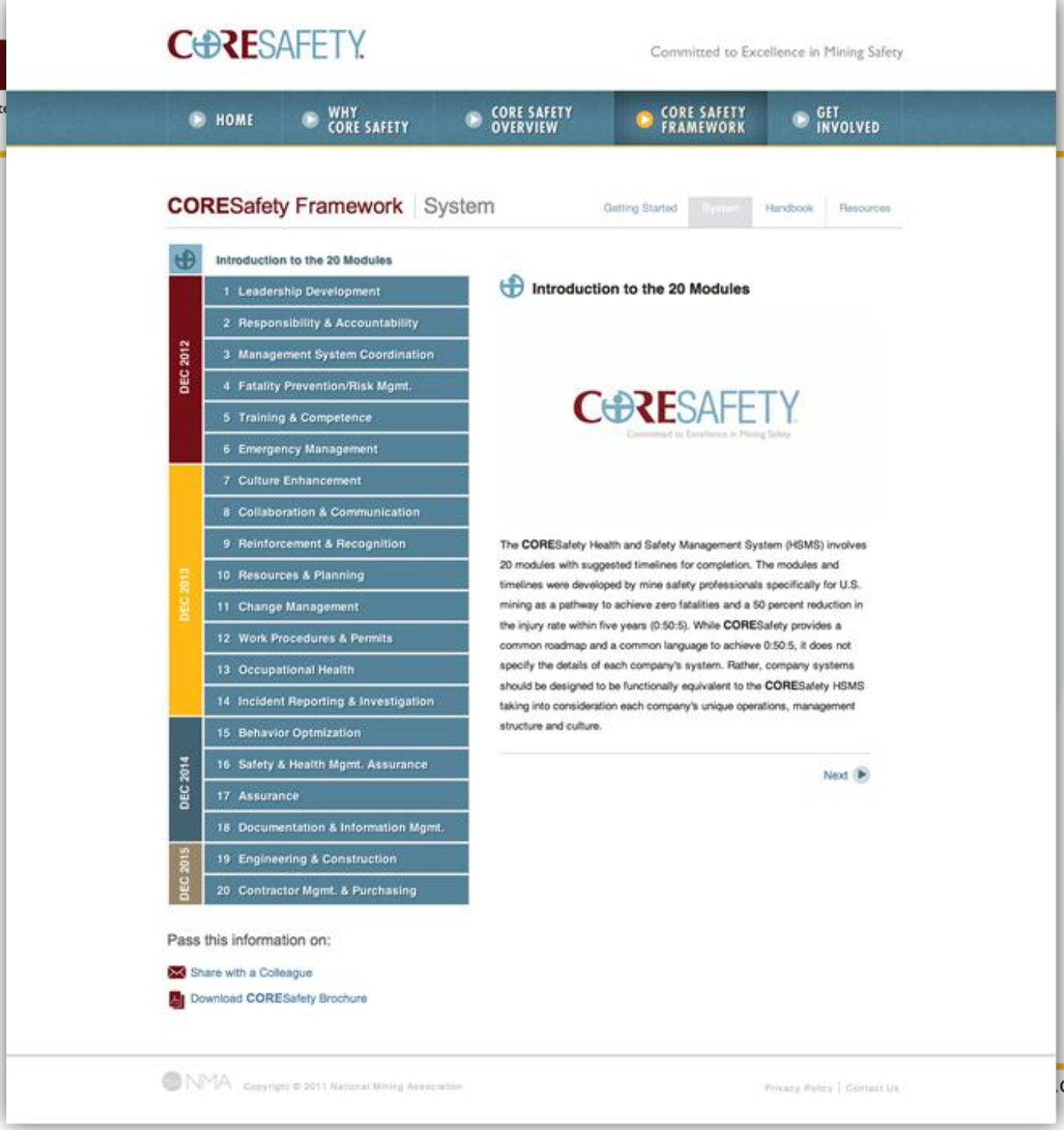
- Conduct a gap assessment
- Develop an action plan to close the gaps

Step 3 Develop the Basic Structure

- Ensure strong senior management support and ownership
- Select a leader
- Integrate MSHA and OSHA compliance into system

Step 4 Assign Responsibilities

- Fix Accountability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4 Fatality Prevention/Risk Mgmt.
5 Training & Competence
6 Emergency Management
DEC 2013
7 Culture Enhancement
8 Collaboration & Communication
9 Reinforcement & Recognition
10 Resources & Planning
11 Change Management
12 Work Procedures & Permits
13 Occupational Health
14 Incident Reporting & Investigation
DEC 2014
15 Behavior Optmization
16 Safety & Health Mgmt. Assurance
17 Assurance
18 Documentation & Information Mgmt.
DEC 2015
19 Engineering & Construction
20 Contractor Mgmt. & Purchasing
Introduction to the 20 Modules
CORESAFETY
The CORESafety Health and Safety Management System (HSMS) involves 20 modules with suggested timelines for completion. The modules and timelines were developed by mine safety professionals specifically for U.S. mining as a pathway to achieve zero fatalities and a 50 percent reduction in the injury rate within five years (0:50:5). While CORESafety provides a common roadmap and a common language to achieve 0:50:5, it does not specify the details of each company's system. Rather, company systems should be designed to be functionally equivalent to the CORESafety HSMS taking into consideration each company's unique operations, management structure and culture.
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Dec. 2012

1. Leadership Development
2. Responsibility & Accountability
3. Management Systems Coordination
4. Fatality Prevention/Risk Management
5. Training & Competence
6. Emergency Management

Dec. 2013

7. Culture Enhancement
8. Collaboration & Communication
9. Reinforcement & Planning
10. Resources & Planning
11. Change Management
12. Work Procedures & Permits
13. Occupational Health
14. Incident Reporting & Investigation

Dec. 2014

15. Behavior Optimization
16. Safety & Health Management Assurance
17. Assurance

Dec. 2015

18. Documentation & Information Management
19. Engineering & Construction
20. Contractor Management & Purchasing

CORESafety is not:

- A requirement to throw out your current approach and start over.
- Someone telling you how to run your business
- An expectation that one size/approach fits all
- A program (MSHA = program)
- An expectation without resources
- A tool that solves all safety problems overnight
- A tool that doesn't need to be actively managed once developed
- A tool that doesn't need employee involvement

Resources:

- Handbook that can be customized
- Web-based materials
  - White papers
  - Tools – Gap assessment, Culture survey
  - Guidance documents
  - Best practices
- Member-based support
- Consultants

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- Introduction to the 20 Modules

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- 14 Incident Reporting & Investigation

DEC 2014
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- 16 Safety & Health Mgmt. Assurance
- 17 Assurance
- 18 Documentation & Information Mgmt.

DEC 2015
- 19 Engineering & Construction
- 20 Contractor Mgmt. & Purchasing

Work Procedures & Permits

Projected Implementation Date: December 2013

Integrating safety and health into operations and maintenance by:

- Organizing and conducting work in a predictable manner.
- Specifying ways to carry out an activity or process.
- Using more controlled procedures for those activities or processes that are high risk or require a permit.

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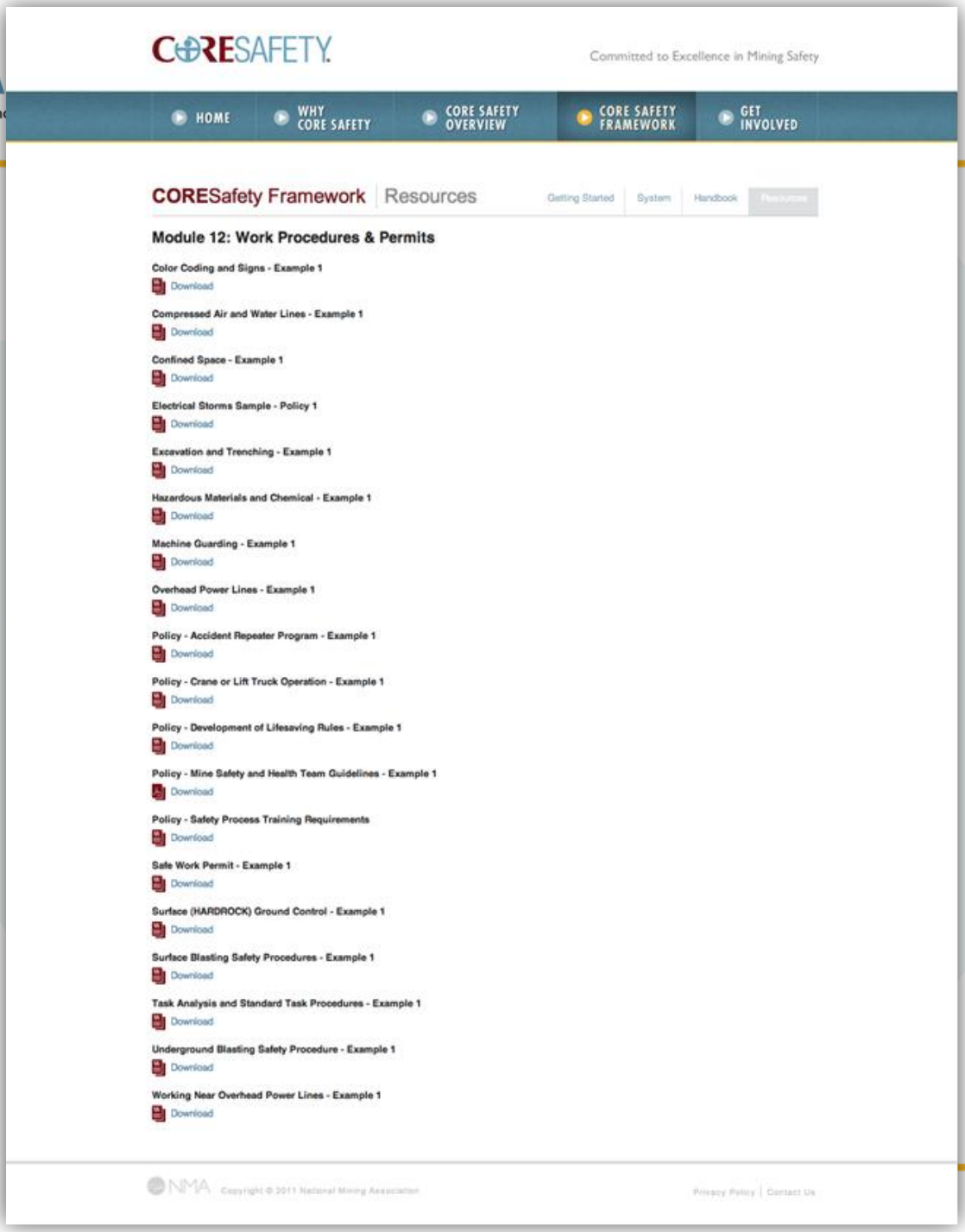
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Policy - Accident Repeater Program - Example 1
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Policy - Crane or Lift Truck Operation - Example 1
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Policy - Mine Safety and Health Team Guidelines - Example 1
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Safe Work Permit - Example 1
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Surface (HARDROCK) Ground Control - Example 1
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Surface Blasting Safety Procedures - Example 1
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Task Analysis and Standard Task Procedures - Example 1
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Underground Blasting Safety Procedure - Example 1
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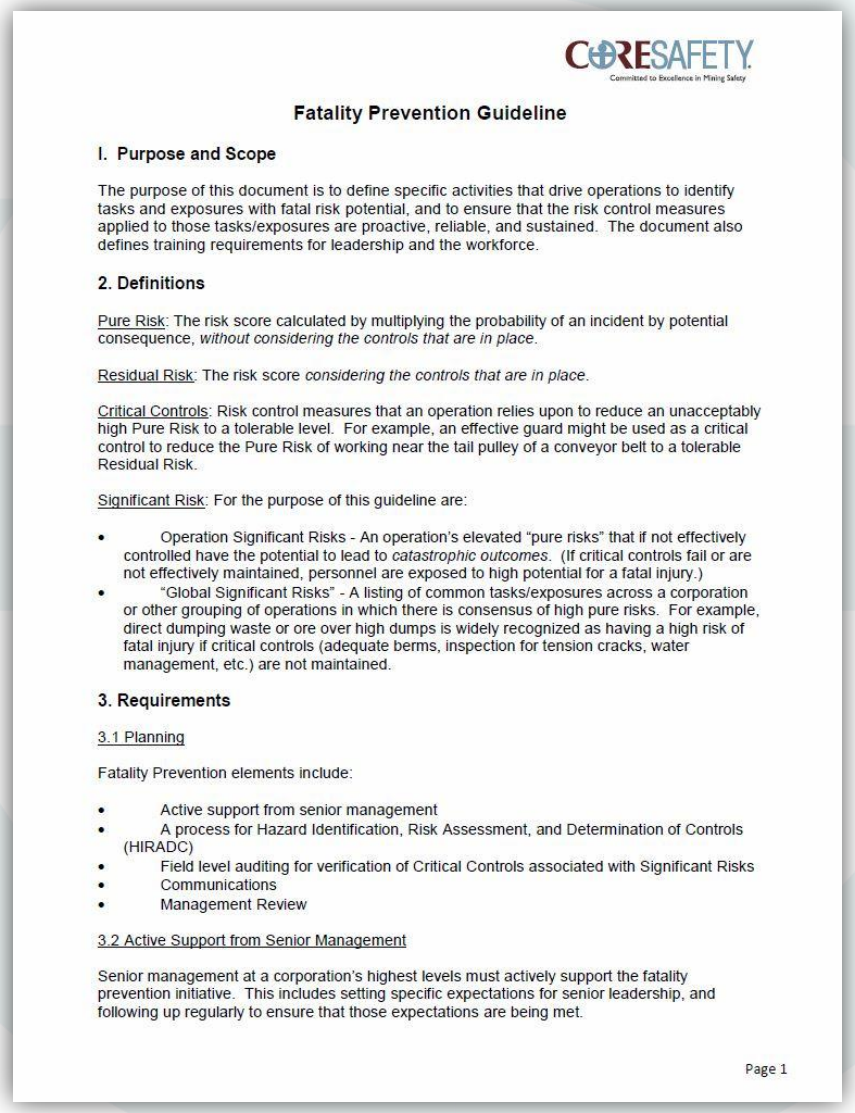

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Fatality Prevention Guideline

I. Purpose and Scope

The purpose of this document is to define specific activities that drive operations to identify tasks and exposures with fatal risk potential, and to ensure that the risk control measures applied to those tasks/exposures are proactive, reliable, and sustained. The document also defines training requirements for leadership and the workforce.

2. Definitions

Pure Risk: The risk score calculated by multiplying the probability of an incident by potential consequence, *without considering the controls that are in place*.

Residual Risk: The risk score *considering the controls that are in place*.

Critical Controls: Risk control measures that an operation relies upon to reduce an unacceptably high Pure Risk to a tolerable level. For example, an effective guard might be used as a critical control to reduce the Pure Risk of working near the tail pulley of a conveyor belt to a tolerable Residual Risk.

Significant Risk: For the purpose of this guideline are:

- Operation Significant Risks - An operation's elevated "pure risks" that if not effectively controlled have the potential to lead to *catastrophic outcomes*. (If critical controls fail or are not effectively maintained, personnel are exposed to high potential for a fatal injury.)
- "Global Significant Risks" - A listing of common tasks/exposures across a corporation or other grouping of operations in which there is consensus of high pure risks. For example, direct dumping waste or ore over high dumps is widely recognized as having a high risk of fatal injury if critical controls (adequate berms, inspection for tension cracks, water management, etc.) are not maintained.

3. Requirements

3.1 Planning

Fatality Prevention elements include:

- Active support from senior management
- A process for Hazard Identification, Risk Assessment, and Determination of Controls (HIRADC)
- Field level auditing for verification of Critical Controls associated with Significant Risks
- Communications
- Management Review

3.2 Active Support from Senior Management

Senior management at a corporation's highest levels must actively support the fatality prevention initiative. This includes setting specific expectations for senior leadership, and following up regularly to ensure that those expectations are being met.

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What is next for my company and CORESafety?

2012	2013	2014	2015
Learn about CORESafety	Develop or revise SHMS	Conduct self-assessment	Verify SHMS is in place and working
Overview • Executives • S&H leaders	Phase in Modules 7-14	Phase in Modules 15-18	Phase in modules 19 & 20
Conduct gap analysis	Integrate with MSHA compliance	Get ready for third-party assessment	Conduct third-party verification of system
Commit to participation	Internally report annual metrics		
Phase in Modules 1-6			