

NAEM Risk Workshop
May 2006

Tools, Models and Metrics for Business Risk-Based Evaluations

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Outline

- Background
- Leadership / Direction
- Risk Management and Standard of Care
- Concluding Remarks

Business Overview

- Business Segments
 - Oil & gas exploration and production
 - Chemicals manufacturing
- Size
 - Net sales & operating revenue (2005): \$15B
 - Market valuation (2006): >\$30B
 - 4th largest U.S. oil & gas company



Where We Operate



At Occidental, HES includes:

- Worker and Public Safety
- Industrial Hygiene
- Environmental Protection
- HES Risk Management
- Site Security

HES Strategic Objective

To Protect People and the Environment
While Creating Stockholder Value
Through Efficient Management of Health,
Environment and Safety

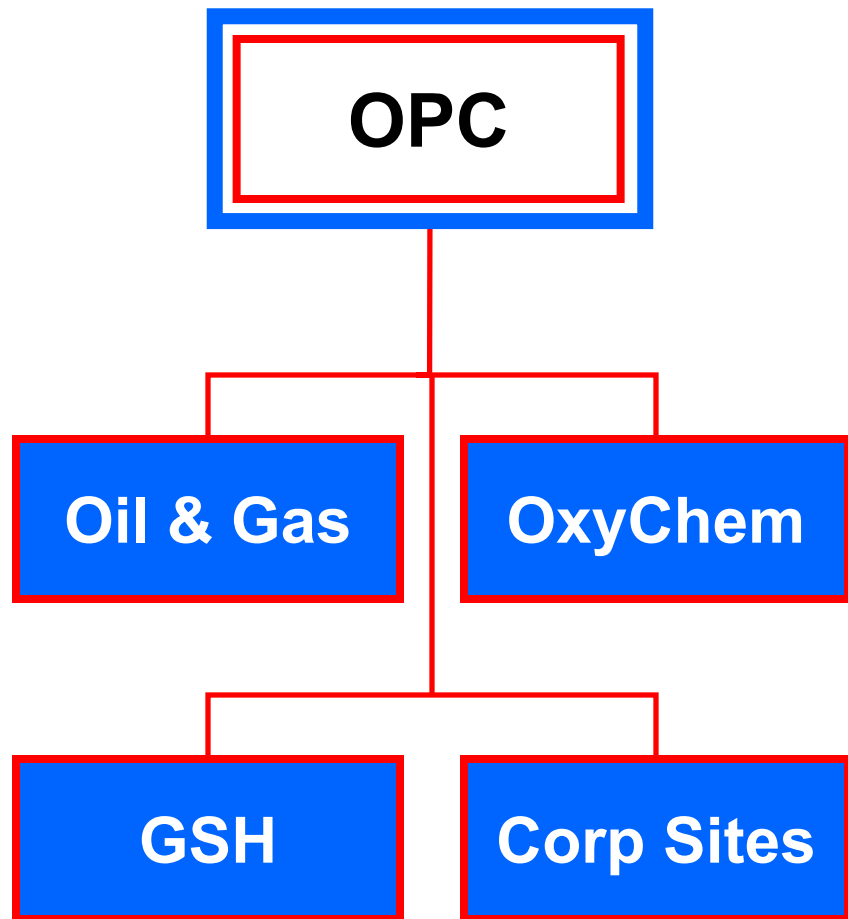


Strategic Goals

- Institute effective and efficient HES management systems in all business segments
- Achieve worldwide Standard of Care (SOC)
- Strive for continual improvement in HES performance
- Be recognized as a company committed to responsible HES management



Structure of HES Function



Corporate

- Policy
- Oversight & Coordination
- Advocacy
- External communication

Business Segments

- Develop Standard of Care
- Implement programs
- Manage risks
- Plan, measure and report HES performance
- Assess and improve HES systems

Leadership & Direction

Four Levels – Governance without Gridlock

Board of Directors

EHS Committee of the
Board of Directors

Corporate Executive
Management

Corporate HES VP
and Staff

Business Segment
Management

Business Segment
HES VPs and Staff

Facility
Management

Facility
HES Staff



Board EHS Committee

- Committee has been active for almost 25 years
- Consists of six outside Directors
- Five meetings per year with corporate HES staff
 - performance metrics
 - facility audit reports
 - significant injuries and incidents
 - remediation activities, financial reserves and costs
 - agency actions
 - risks and mitigation efforts
 - legislation, regulation and other matters



HES Success Drivers

- Strong support of Board of Directors through the Environmental, Health and Safety Committee
- Corporate and business segment management dedicated to achieving world-class HES performance
- A flexible, risk-based HES management system model that enables appropriate and efficient programs to be implemented in each business area





Risk Management

Standard of Care

Worldwide Standard Of Care

- The set of HES performance expectations and goals...
- established by a business segment...
- that provides people and the environment...
- a consistent level of protection from HES risks...
- inherent in the various similar business activities of the business segment ...
- wherever located



Requirements

- Compliance with all applicable HES laws and regulations, as a minimum
- Correction or cessation of any activities that pose an unacceptable risk to people's health and safety or to the environment
- Establishment of worldwide Segment HES performance objectives
- Evaluation and mitigation of EHS risks that achieves consistent results worldwide



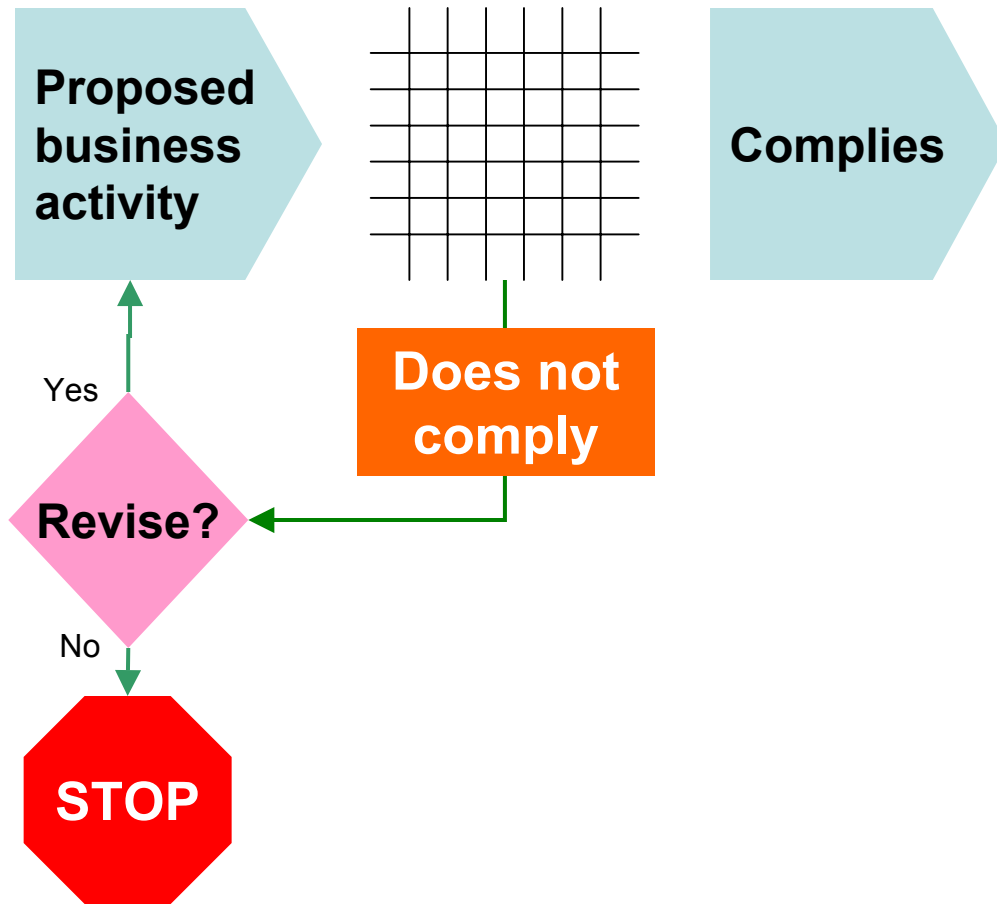
Process

- Structured process for assessing HES risks and mitigation opportunities to lower the company's risk profile
 - Provides management with data for consideration in business planning and decision making
 - Includes a system of authorities for risk acceptance
 - Assures any unacceptable residual HES risks are mitigated in a timely manner or operations are discontinued until an acceptable risk level is achieved
 - Develops and implements HES programs to achieve a worldwide Standard of Care



Compliance Screen

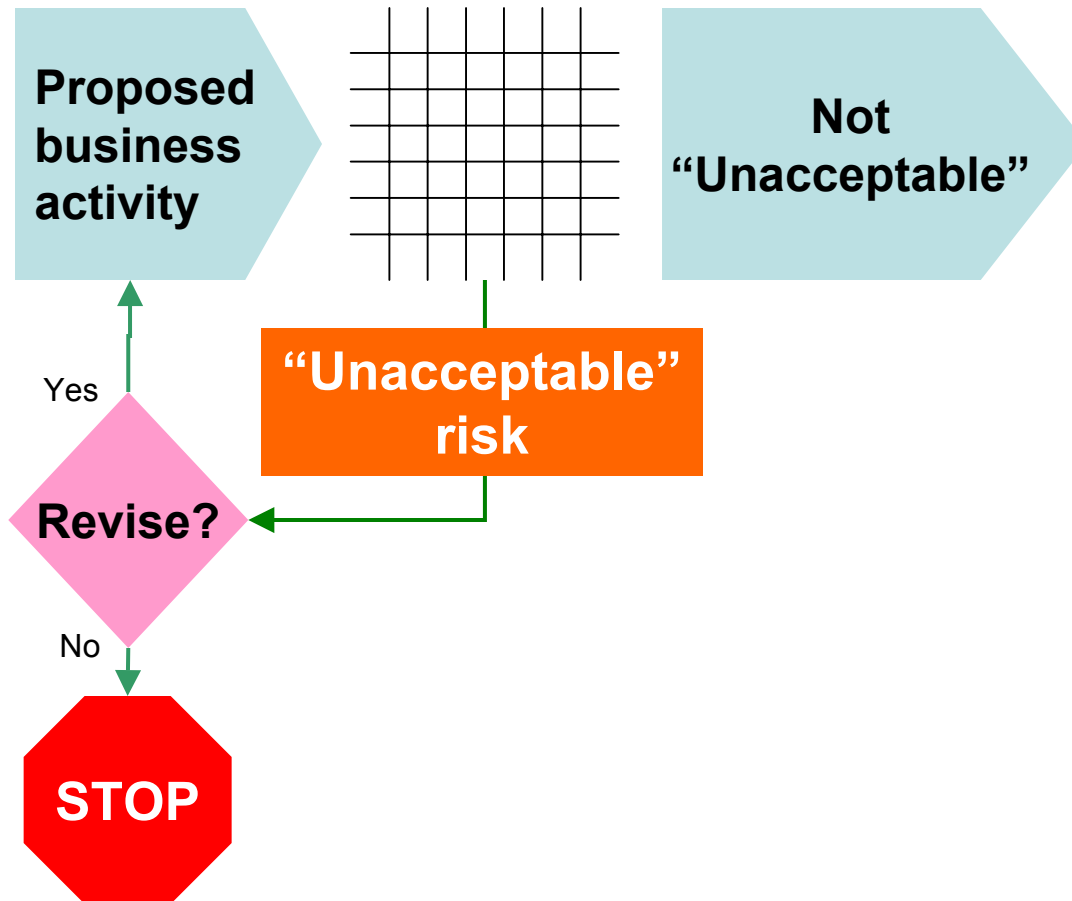
Legal Compliance



- Does proposed business activity comply with all applicable national, state and local law?

Risk Screen

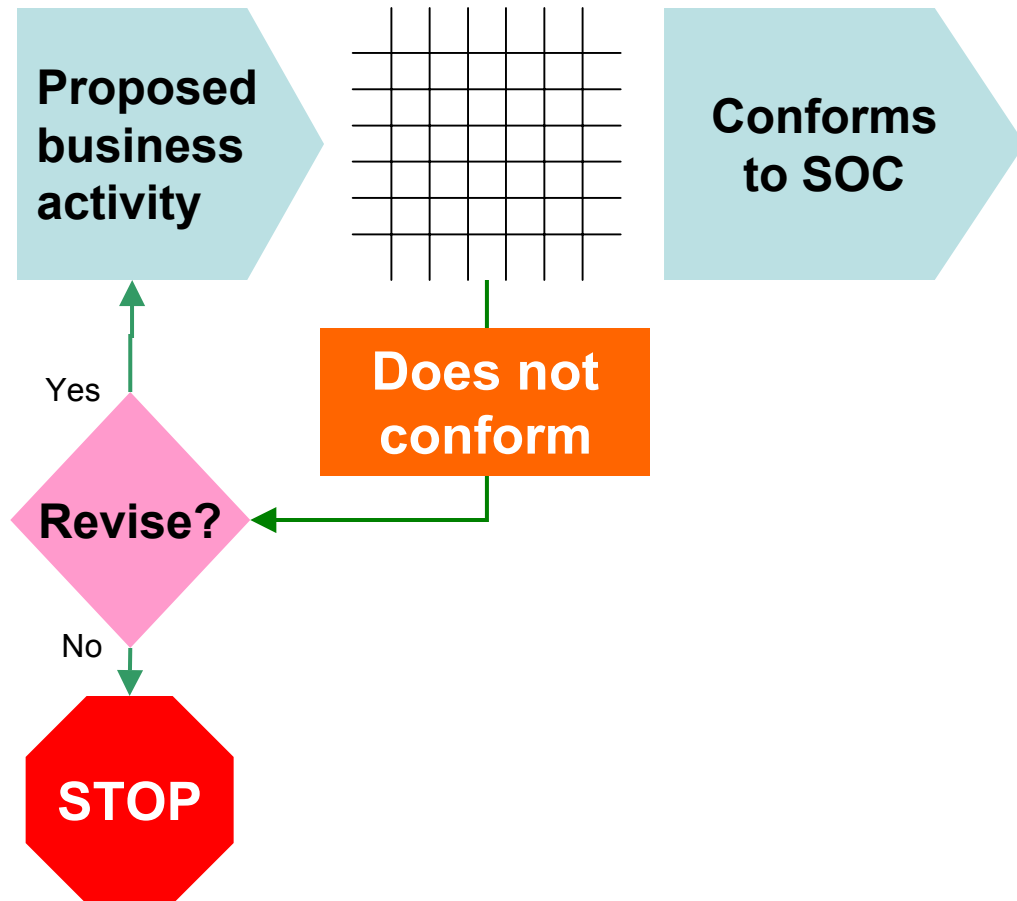
HES Risk



- Promptly correct, or discontinue participation in, any activity that poses an unacceptable risk to human health or safety or has an unacceptable environmental impact

SOC Screen

Standard of Care



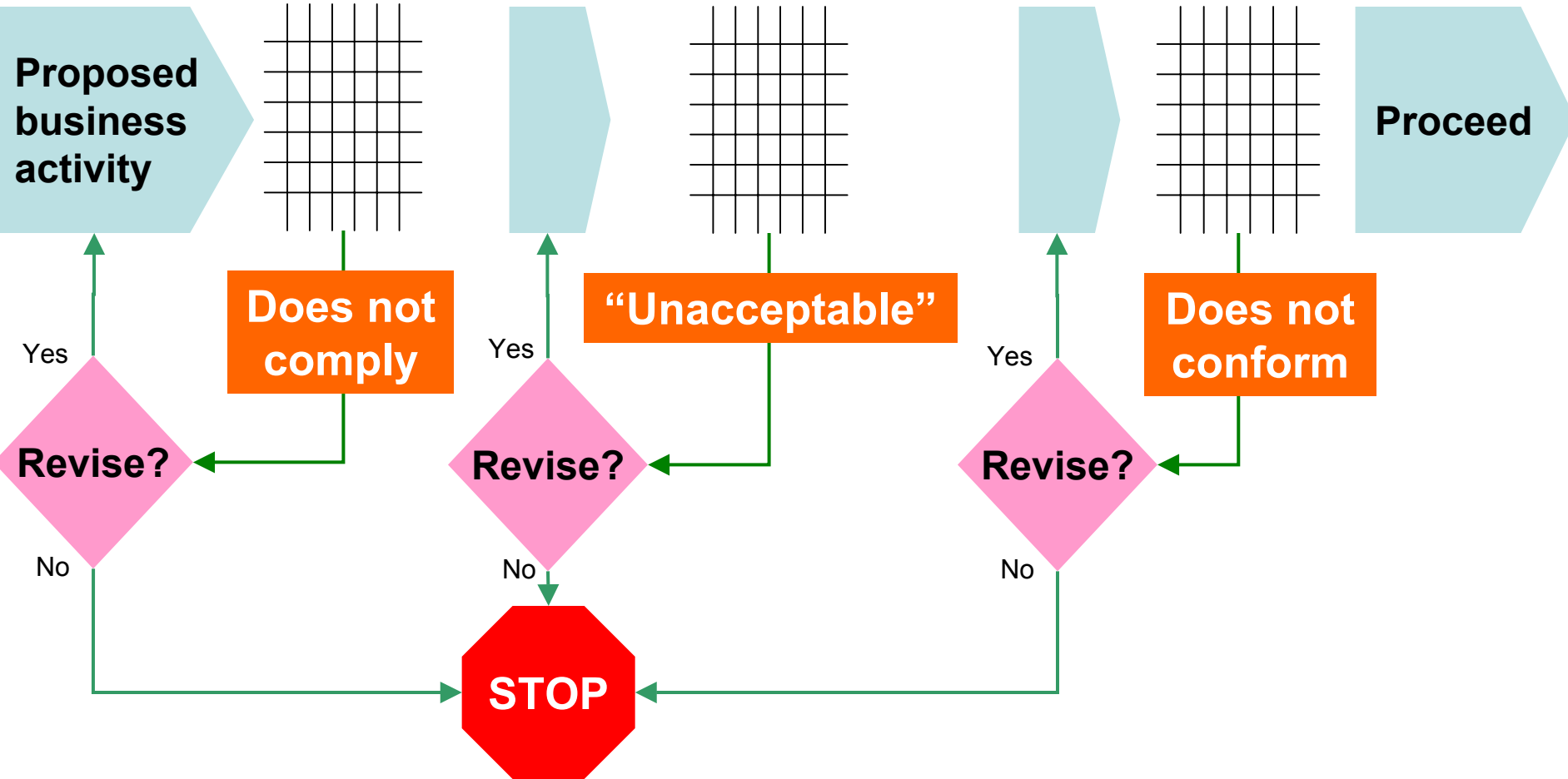
- Conformance with performance expectations and goals that provide people and the environment a consistent level of protection from HES risks wherever located

Screening Process

Legal Compliance

HES Risk

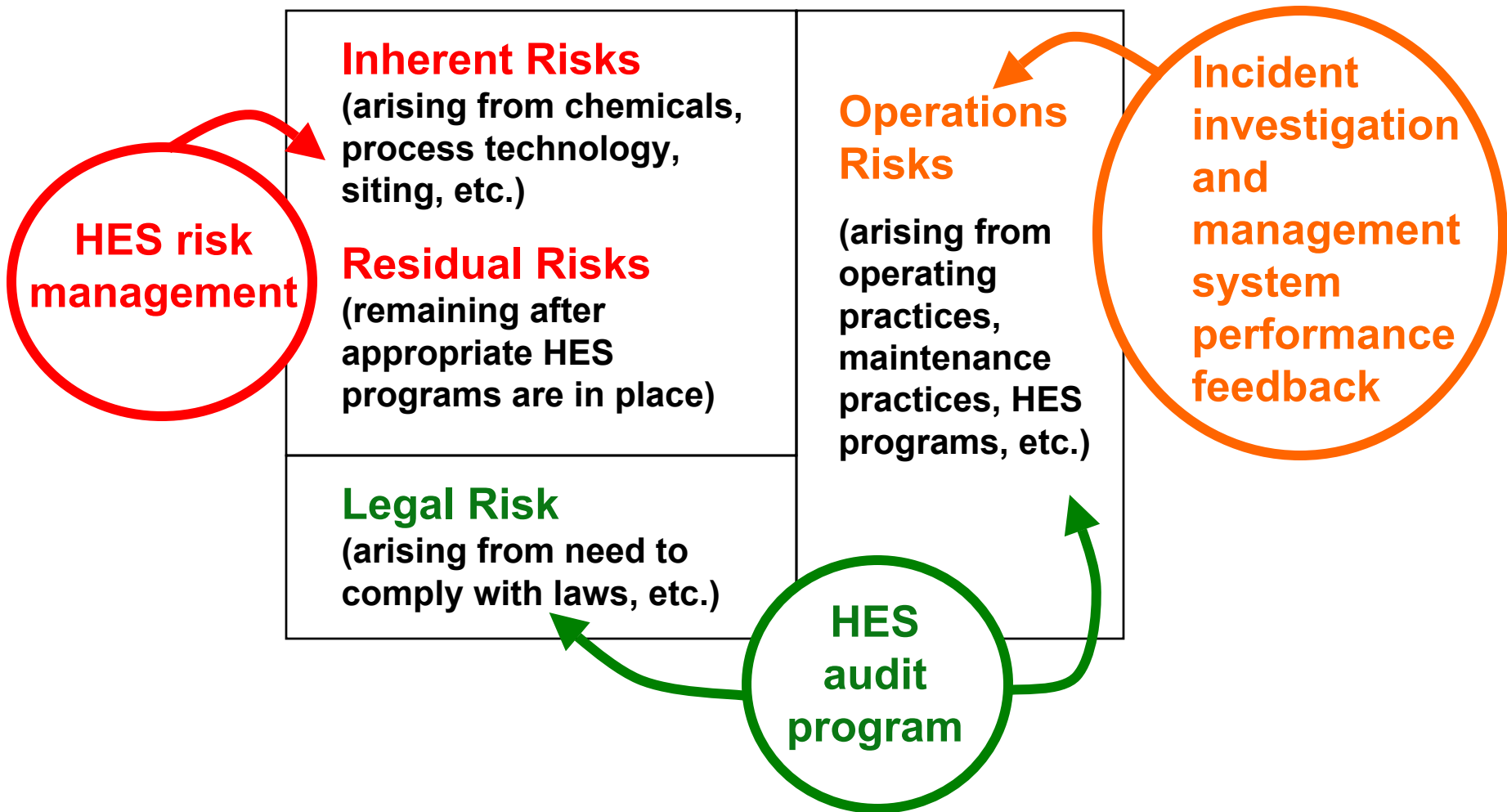
Standard of Care



Risk-Based Management Process

- Goal is prudent management of risks
- Business / HES staff do evaluation
- Documented risk analysis is required
 - Simple operations - screening
 - Complex operations - rigorous analysis
- Choice of risk-mitigation approach rests on analysis and judgement of business management and HES staff

A View of HES Risk Management



A View of HES Risk Management



**Standard
of Care**



A View of HES Risk Management



Periodic Corporate Program Review to assess how well each Business Segment is managing all programs

Recap

- Business segment CEO accountability
- Business segment application
- Process & performance standards
- Risk-based, business-driven
- Multi-level audit



Segment Programs are Key

Business segments are responsible for:

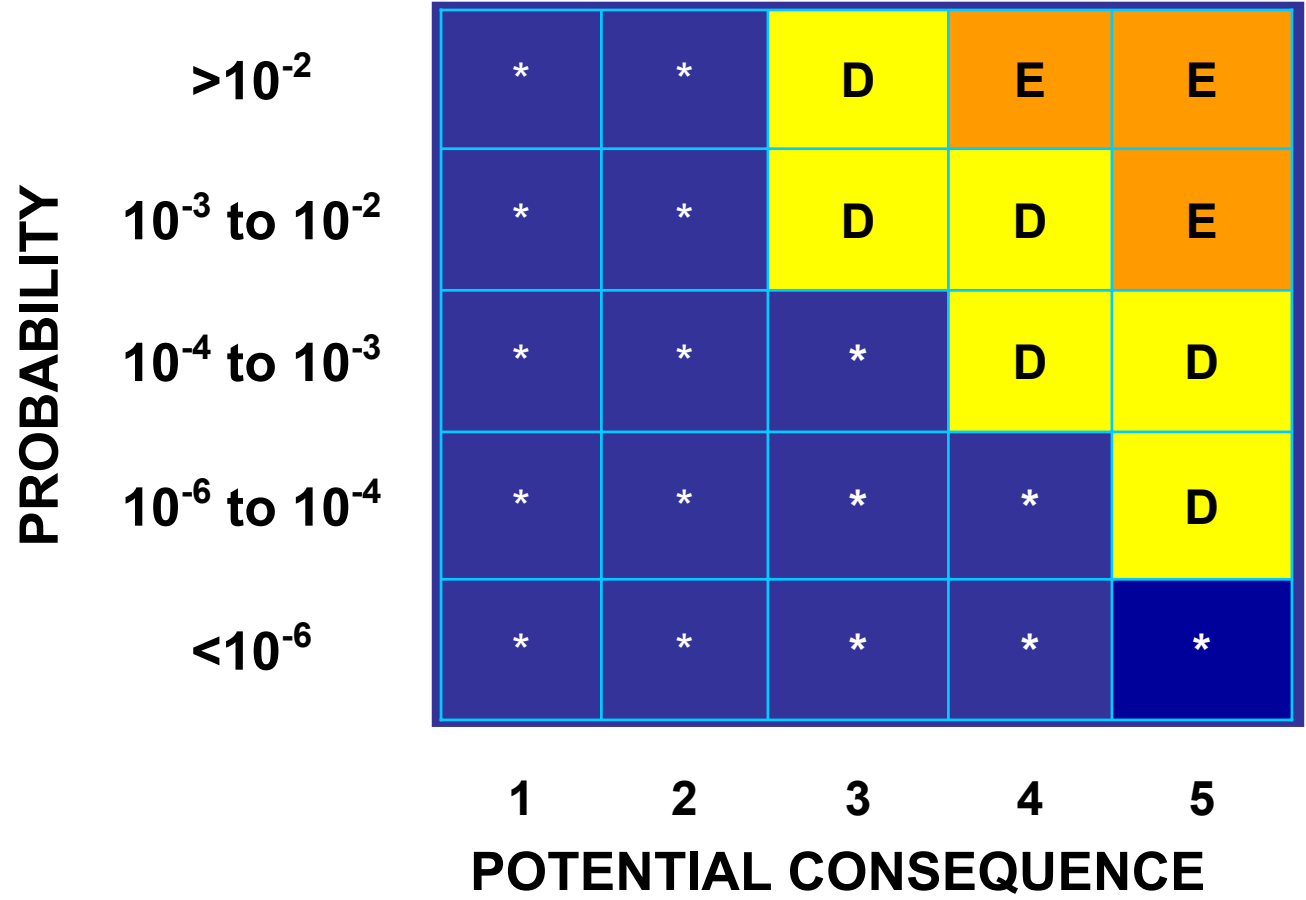
- Specifying SOC requirements
- Implementation
- Resource allocation
- Monitoring conformance



Methodology

- Screen all operations to identify and quantify potentially significant HES risks
 - Identify potential scenarios
 - Determine potential consequences
 - Determine likelihood (probability) that each consequence will occur
- Use a consequence-probability matrix to determine the response level
- Communicate risk information to management
- Determine the correct response to the risk

Risk Matrix



* DEFINED BY BUSINESS SEGMENTS



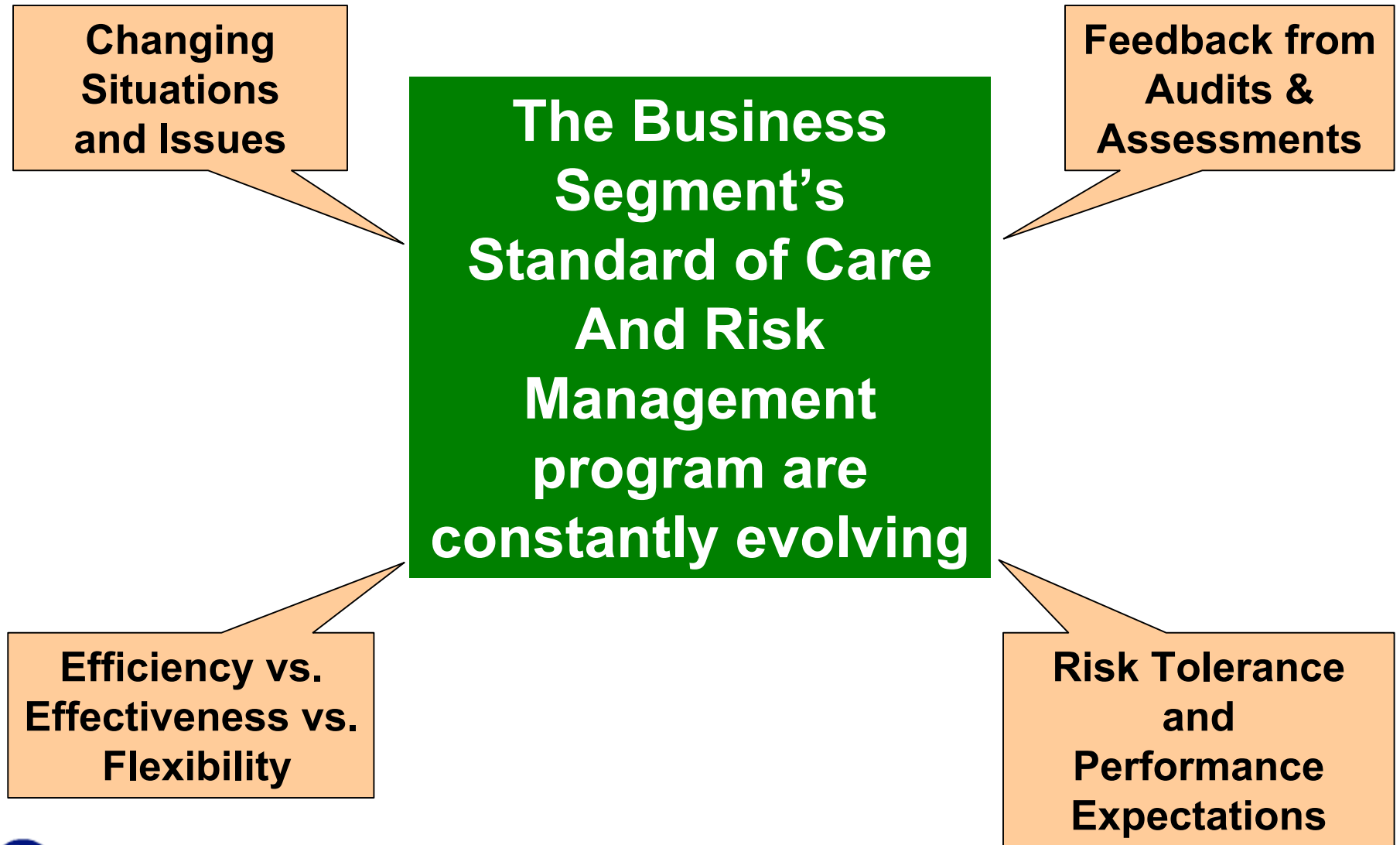
Consequence Attributes

- Onsite permanent incapacitating injury
- Offsite human impact
- Environmental impairment
- Offsite property damage
- Onsite property damage or loss of production revenue
- Public reaction

Risk Management Responsibility

- Managers are accountable for prudent risk management decisions, and
- Integrating HES risk management into the business decision-making process to achieve the greatest risk-reduction

Maintaining the Process



Management Response

What

- Verify a consistent Standard of Care is being achieved worldwide
- Mitigate unacceptable residual HES risks in a timely manner (or discontinue until an acceptable risk level can be achieved)

How

- Regularly review high risks and assess mitigation opportunities
- Compare risk reduction projects with risk inventory and determine where resources should be applied



Results

- HES risks are being actively managed
- We continue to seek opportunities to reduce risks
- We believe that our management of residual HES risks is adding value



Challenges

- Managing risks that cannot be mitigated to lower levels
- Consideration of non-episodic risk scenarios
- Incorporating site security issues into the risk management process
- Identifying effective risk assessment tools
- Ensuring appropriate communications

Forward Focus

- Completing full implementation of HES risk management programs in all business segments
- Demonstrating that a consistent worldwide Standard of Care is being achieved
- Assuring that HES program knowledge is maintained as personnel change



Questions?

