

Overview of DuPont's Safety Model and Sustainability Initiatives

Meeting with DOE

December 14, 2009; 2-4 pm

Agenda

Safety Philosophy

Culture, Core Values, and Key Elements

DuPont's Implementation Strategy

Training

Resources

Safety Structure and Organization

Benefits and Stumbling Blocks

Implementation Suggestions and Strategies

Evolving into a new, safer, and more sustainable culture

DuPont's Sustainability Program

Overview of DuPont's Sustainability Program and the Link between Safety and Sustainability

Topics to Consider
- DuPont Safety Model Presentation to DOE Undersecretaries –
December 14, 2009

DuPont Safety Model

- DuPont's safety model serves as a core value, is fully integrated into the company's culture, is strongly endorsed by leadership and is considered essential to company growth.
- DuPont's safety groups are well respected within the organization and are organized to work collaboratively with individual plant representatives to solve problems and shepherd company missions.

DOE Challenges in Safety Program Execution

- The implementation and execution of DOE's safety program must be designed to address:
 - Scientific and highly technical operations
 - Operations governed by intense federal regulations
 - Analysis to support executive level decision-making
 - Transparency to outside regulators
 - Reduction of areas burdensome to mission

Questions for Consideration

- What strategy did DuPont follow to initiate and sustain a favorable safety culture, positive program execution and improved safety performance?
- How can DOE best understand the differences in the way the two programs are executed?
- What steps can be taken at DOE to address the differences that would enhance DOE's execution improvements without increasing burden to DOE's mission?
- How did sustainability concepts aid your approach to safety?



Background Information and Resources - DuPont Safety Model Presentation to DOE Undersecretaries -

Tab Number:

1. Topics to Consider

DuPont (Tabs 2-4)

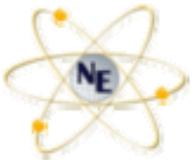
2. **Felt Leadership and Safety Culture** – Principles of an effective safety culture
3. **DuPont 2015 Sustainability Goals** – Outline and summary of DuPont's goals for corporate growth, market dominance, and safety performance
4. **DuPont 2008 Sustainability Progress Report** – Summary and progress report towards meeting the 2015 Sustainability Goals

Ford Motor Corp. (Tabs 5-6)

5. **Ford's Health and Safety Program within its Corporate Sustainability**
6. **Ford "Blue Print for Sustainability"** – Five key material issues comprising Ford's sustainability program
7. **Lockheed Martin Energy Environment Safety and Health Sustainability Report** – 2007 progress report on meeting long-term sustainability program goals, including management approaches to safety and health
8. **United Technologies Commitment Improvement Report** – Highlight of the five key commitment areas, including discussion of safety performance indicators
9. **Pfizer Environment Safety and Health Component of Its Corporate Responsibility Report** – Overview of key performance indicators as measure of performance goals

Dow Chemical (Tabs 10-13)

10. **Dow Chemical's Health and Safety Program within its Corporate Sustainability**
11. **Drive to Zero: Dow Chemical's Injury Reduction Journey**
12. **The Long View: Health as a Corporate Strategy for Sustainability. Dow Chemical**
13. **2015 Sustainability Goal Update, Dow Chemical 3rd Quarter 2009**
14. **BP Sustainability Review 2008** – Includes reporting of safety indicators from 2004-2008
15. **Dow Jones Sustainability Indexes** – An introduction to the DJ Sustainability Indexes, which measures selected companies' progress in meeting long-term economic, environmental, and social criteria
16. **Global Environmental Management Initiative (GEMI) Clear Advantage: Building Investor Value** – The link between ES&H and shareholder value
17. **Sustainable Enterprise Quarterly** – "Thinking about Sustaining Worker Health" – Upward communication of worker safety concerns
18. **CSIS Project Horizon Progress Report** – Discussion on efforts to develop strategic interagency capabilities in which to invest, plan, and prepare for future threats



Background Information and Resources Highlights DuPont Safety Model Presentation to DOE Undersecretaries

DuPont (Tabs 2-4)

Tab 2: “Felt Leadership” and Safety Culture

- DuPont’s “Felt Leadership” program is a critical part of its safety management system, which and is made up of 22 safety elements. “Felt Leadership” is an explicit acknowledgement that safety is a core business value and integral to the very existence of the organization. This acknowledgement has a profound effect on employees. They become an active part of building a safety culture.
- “Felt Leadership” is a public proclamation of an organization’s commitment to caring about people. It is a proactive approach to building trust and lasting relationships among employees, customers, shareholders and communities.
- Strong, visible management commitment is the basic component of a successful safety management system, and this commitment must start at the top and permeate through all levels of the organization.

Tab 3: DuPont 2015 Sustainability Goals

- Set of sustainability goals to address safety, environment, energy, and climate issues.
- DuPont is fully committed to these goals and expects to derive an additional \$6 billion or more by 2015 from sustainability related operations.
- Marketplace goals focus on developing products that better the environment; reduce energy consumption; have less impact on climate; reduce energy consumption; and help protect the public.
- Environmental footprint goals focus on reducing green house gasses and water consumption; increasing fleet fuel efficiency; minimizing carcinogens; and obtaining independent verification of its sustainability performance.

Tab 4: DuPont 2008 Sustainability Progress Report

Enthusiasm for sustainability inside DuPont has grown because it is now directly tied to the company’s growth. It is a central factor in their research and development portfolio and their marketing and sales functions.

Marketplace Goals Progress

- Increase R&D Investment – Established baseline investment of \$320 million
- Double Revenues – In 2007 revenues were at \$5.8 billion. Target is \$8 billion by 2015.

- Introduce 1,000 new products or services to make people safer. In 2007, they introduced 127.

Environmental Footprint Goals Progress

- Reduce Greenhouse Gas Emissions – Overall, down 9.5% since 2004.
- Fuel Efficiency – 22% of Dupont’s current U.S. fleet vehicles is using leading technology.
- Verification of Environmental Management Goals - 36% of sites are ISO 14000 Certified.

Ford Motor Co. (Tabs 5-6)

Tab 5: Ford’s Health and Safety Program within its Corporate Sustainability

- Safety program focusing on:
 - Safe conditions - using internal and external benchmarking to drive health and safety improvements;
 - Safe acts - raising awareness of safety issues and reinforce it consistently with employees via regular communication at work group meetings and trainings for managers, supervisors and engineers;
 - Relationship management - maintaining good relationships with all stakeholders.

Tab 6: Ford “Blue Print for Sustainability”

- *Blueprint for Sustainability* provides a comprehensive look at the company’s progress on five key areas over the past year: Climate Change, Mobility, Human Rights, Vehicle Safety, and Sustaining the Company. For example, the human rights area addresses engagement with individual supplier facilities and key supplier corporate management; and vehicle safety addresses collaborative research efforts with internal/external partners all of which contribute to sustaining the company and adapting to change.

Tab 7: Lockheed Martin Energy, Environment, Safety and Health Sustainability Report

- Lockheed Martin’s 2007 report covers ESH’s sustainability efforts as well as environmental progress. The report details many of the corporation’s ESH accomplishments, from improved metrics to the introduction of innovative programs that enhance their ability to conserve and preserve resources. It also serves as a baseline from which Lockheed Martin will measure subsequent improvement in both performance and reporting.
- On a trajectory toward zero injuries, Lockheed Martin in 2007 moved toward the first major milestone in its Target Zero safety program — reducing injuries by 50 percent against the 2003 baseline by the end of 2008. This was accomplished through leadership commitment, effective safety improvement tools, and enhanced safety training. Lockheed Martin implemented its Injury Reduction Model in 2007 to drive safety improvement. The model involves deeper analysis of incident and safety performance data to identify root causes of high incident rates.

- Lockheed Martin recognizes that sustainability and performance excellence go hand-in-hand. They are focused on operating in a way that builds a solid future without negatively impacting the world around them. Lockheed Martin is committed to integrating sustainability in all decision-making; individually, as teams, and as a corporation.

Tab 8: United Technologies Commitment Improvement Report

- United Technologies (UT) is a \$54.8 billion Fortune 50 and Dow Jones Industrial Average conglomerate. It's businesses include: Carrier, Hamilton Sundstrand, Otis, Pratt & Whitney, Sikorsky and UTC Fire & Security..
- The report defines the five key commitments that focus UT's business and future:
 - Performance
 - Innovation
 - Opportunity
 - Responsibility
 - Results
- UTC tracks approximately 15 performance indicators targeting governance, environment, products, customer service, suppliers and employees. Reported status in these areas help stakeholders understand UTC's progress and performance against other companies and industry benchmarks.
- UTC's most significant challenges fall within the governance, environment, and people areas. Indicators measuring injuries and fatalities are helping the company accomplish needed improvements in these areas.

Tab 9: Pfizer Environment Safety and Health Component of its Corporate Responsibility Report

- This ESH component of Pfizer's 2009 corporate responsibility report illustrates how thoroughly the drug maker has incorporated ESH into its corporate culture and its vision for sustaining itself. The report acknowledges that responsible ESH practices are of increasing interest of stakeholders and, significantly, to shareholders. The report shows and annotates Pfizer's 12 key ESH performance indicators and progress towards meeting their goals.
- Pfizer recognizes there is an urgent need to move toward a sustainable global economy. As one of the largest pharmaceutical companies in the world, Pfizer has a unique role to play in driving this change largely through responsible energy and water use.

Dow Chemical (Tabs 10-13)

Tab 10: Dow Chemical Safety and Security Program – An Element of Corporate Sustainability

- In 1995, the Dow Chemical set important goals to improve its ESH performance and we were recognized for its achievements.
- In 2006 it set the bar even higher with the introduction of a more ambitious, next-generation set of goals. Dow will focus its efforts on strengthening its relationships within the communities where it operates, continuing to improve its product stewardship and innovation to solve some of the world's most pressing problems, and on reducing its global footprint.
- Dow is relentless in leading the entire industry in security and manufacturing safety. As a strong advocate, its work in these areas has been and will continue to be thorough and extensive.

Tab 11: The Drive to Zero: Dow Chemical's Injury Reduction Journey

- This report recounts how Dow has attacked the critical challenge of continually improving its safety performance. Keeping the environment and the people who work at the company safe is part of Dow's mission and is fully integrated into its operations.
- As part of its "Drive to Zero" safety program, Dow set aggressive safety performance goals from 1996 to 2005; specifically, to reduce by 90%:
 - Injuries and illnesses
 - Leaks, breaks and spills
 - Transportation incidents/10,000 shipments
 - Fires, explosions, and significant chemical releases, and
 - Reduce motor vehicle incidents per 1 million miles by 50%

Tab 12: The Long View: Health As a Corporate Strategy for Sustainability

- Dow's 2005 Executive Summit on Worker Health
- Presents features of the three phases of Dow's worker health effort:
 - Phase 1: 1997 – 2002: Health and Human Performance
 - Phase 2: 2002 – 2004: Business Analysis
 - Phase 3: 2004 – Present: Development of a Health Strategy - 5 key elements
 - Prevention
 - Quality and Effectiveness
 - Health Care System Management
 - Aligned economic Incentives
 - Advocacy

- Five Take Home Points
 - Health is a business priority
 - This is a very complex and challenging area
 - A simple strategy built on a business analysis of the total economic impact health provides focus
 - Select priorities and move forward step by step
 - Capturing the value of health may require new thinking and a long view

Tab13: Sustainability Goals Update 3Q 2009

- Dow's 2015 Sustainability Goals are aligned to three areas:
 - Collaboration
 - Innovation
 - Understanding its impact on global ecosystems
- Dow recently joined the Department of Energy's Save Energy Now LEADER Program, a national initiative to promote greater energy security, lower carbon emissions and increase economic competitiveness among industrial companies.

Tab 14: British Petroleum's 2008 Sustainability Review

- How BP is adopting sustainable performance as a corporate imperative. Highlights include:
 - Reviews of a range of BP's performance and safety metrics for last 5 years
 - Corporate governance structures and processes
 - A detailed discussion of whether BP's operations are becoming safer
 - Discussions of global energy supply and demand
 - How BP is addressing climate change issues
 - BP's approach to ensuring a competent workforce
 - How BP operations benefit local communities

Tab 15: Dow Jones Sustainability Indexes

- A growing number of investors integrate economic, environmental and social criteria into their stock analysis and use Dow Jones Sustainability Indices as a proxy indicator for innovative and future-oriented management.
- The health and safety criteria are components of the Labor Practices Indicators, and include tracking of safety performance, tracking of work-related fatalities, and tracking of near misses or similar crisis events.

Dow Jones Sustainability Index Criteria and Weightings

CRITERIA AND WEIGHTINGS
Corporate Sustainability Assessment Criteria

Dimension	Criteria	Weighting (%)
Economic	Codes of Conduct / Compliance / Corruption & Bribery	6.0
	Corporate Governance	6.0
	Risk & Crisis Management	6.0
	Industry Specific Criteria	Depends on Industry
Environment	Environmental Reporting*	3.0
	Industry Specific Criteria	Depends on Industry
Social	Corporate Citizenship/ Philanthropy	3.0
	Labor Practice Indicators	5.0
	Human Capital Development	5.5
	Social Reporting*	3.0
	Talent Attraction & Retention	5.5
	Industry Specific Criteria	Depends on Industry

*Criteria assessed based on publicly available information only

Tab 16. Global Environmental Management Initiative's (GEMI) Clear Advantage: Building Shareholder Value

- GEMI is an organization of leading companies dedicated to fostering global environmental, health and safety (EHS) excellence through the sharing of tools and information to help business achieve EHS excellence. GEMI currently has 28 member companies representing more than 20 business sectors.
- GEMI's latest tool in the series was developed to enable businesses to measure, manage and communicate EHS value to the financial community. The document's three main sections provide:
 - Evidence to support the correlation between EHS performance and financial outcomes.
 - Ten important EHS-related value drivers and related case studies from GEMI member companies.
 - Methodology for EHS and Investor Relations colleagues to apply this new knowledge and engage with senior executives in order to effectively measure, manage and disclose the competitive advantage derived from superior EHS performance.

GEMI's Sustainability Indicators

CUSTOMER	The ability to develop customer relationships, satisfaction and loyalty.
LEADERSHIP AND STRATEGY	Management capabilities, experience and leadership's vision for the future.
TRANSPARENCY	Does management communicate honestly and openly? Are its communications believed and trusted? Does it hold itself accountable?
BRAND EQUITY	Strength of market position. The ability to expand the market, perception of product/service quality and investor confidence.
ENVIRONMENTAL AND SOCIAL REPUTATION	How the company is viewed globally with regard to environmental concerns, community concerns, regulators' concerns, inclusion in 'most admired company' lists and triple bottom line.
ALLIANCE AND NETWORKS	Supply chain relationships, strategic alliances, partnerships.
TECHNOLOGY AND PROCESSES	Strategy execution, IT capabilities, inventory management, turnaround times, flexibility, reengineering, quality, internal transparency.
HUMAN CAPITAL	Talent acquisition, workforce retention, employee relations, compensation, what makes a "great place to work."
INNOVATION	The R&D pipeline, effectiveness of new-product development, patents, know-how, business secrets.
RISK	The ability to effectively manage the balance between potential liabilities and potential opportunities.

Tab 17: Sustainable Enterprise Quarterly – “Thinking about Sustaining Worker Health” – Upward communication of worker safety concerns

- There are great discrepancies between companies in terms of how they manage employee health and safety. Further, even within the same company, there are discrepancies in how safety is treated across work groups and over time during the course of projects.
- In the context of safety, leaders within the organization must value and encourage upward communication about safety in order to ensure organizational success. One critical question that leaders need to ask: Is this an organization where leadership practices create an atmosphere of trust such that a free exchange of information occurs, or is this an organization where the upward communication of problems is either ignored or punished.
- The notion of upward communication is relevant not only for safety issues, but also for other strategic priorities such as innovation and organizational learning. Simply put, employees often see problems, issues and/or opportunities for innovation that are never brought to the attention of management due to fear or a perception that their ideas are not welcome.

- Research in high-risk environments suggests that high-quality relationships between leaders and employees are associated with increased safety communication, increased subordinate safety commitment, and fewer accidents.
- At the end of the day, to create a strong culture for employee health and safety, employees need to see every day and through multiple ways that safety is valued, rewarded, supported, and encouraged.

Tab 18: CSIS Project Horizon Progress Report

- Coordinated by the Center for Strategic and International Studies, Project Horizon brought together federal senior executives from global affairs agencies and the NSC to explore ways to improve interagency coordination and collaboration. Using scenario-based planning, the objectives of Project Horizon are to:
 - Develop strategic interagency capabilities in which to invest, plan, and prepare for threats that are likely be faced by the U.S. in the next 20 years.
 - Provide agencies with scenario-planning toolset that could be used to support both intra- and inter-agency planning
 - Serve as a starting point for an institutionalized interagency planning process.
- Rationale
 - Conducting integrated strategic planning in today's federal organizations is a formidable challenge. Different offices within an agency often conduct planning and develop plans for strategic, performance, resource, and policy without a unifying framework.
 - At the interagency level, these challenges are even more difficult and pressing.
 - Project Horizon aspires to serve as a means for bridging the chasms of the lack of coordination in strategic planning. It represents both a reusable, future-oriented interagency planning process and it nurtures a community of planners that are helping better connect the government's global affairs agencies.
- The five scenarios, or alternative futures, are a world:
 - 1) dominated by Asian mega-corporations,
 - 2) of rapid technological progress and American-led globalization,
 - 3) of regional political and economic power leading to frictions between three major power centers,
 - 4) marked by persistent terrorism and nuclear proliferation, and
 - 5) of global capitalism that fuels rapid economic growth, market integration, and innovations.



Putting science to work
SAFETY MANAGEMENT

SAFETY MANAGEMENT CONSULTING

Today, energy companies have many good reasons to embrace safety as a strong core value. The global energy industry has become increasingly competitive in recent years.

Public sentiment toward such large and highly visible companies now reflects the growing desire for these corporate citizens to become increasingly more socially responsible.

However, when safety is quoted by company leadership to be a core value, what does it really mean? Is this core value “felt” by the organization at large? Is this a core value that is shared by all employees and contractors, and is it exercised with true passion? Or should such proclamations of safety as a core value be viewed with skepticism?

Each day around the world, many employees and contractors are injured while at work. In addition, operations are adversely affected when injuries to people also result in lost production from operations and damage to property, nearby communities and perhaps even to the environment. More broadly, families, friends and communities can also be affected. Harm to people and damage to property, communities and the environment can significantly raise the stakes for company management by negatively affecting company owners and even society at large.

At DuPont, we believe that the management systems, processes and culture that protect people can be extended successfully to the protection of property and operations. Perhaps the time has come to extend the increasingly popular challenge, “No one gets hurt today”, to a broader and ultimately more impacting challenge which is, “No one gets hurt, no property gets damaged and no operation gets unnecessarily interrupted today.”



Good Safety = Good Business

Over the years, DuPont has seen how improved safety, including preventing injuries, saving lives and enabling a more productive workforce and more productive plants, also enhances a company's bottom line. That's because when resources are more efficiently used, employee turnover is reduced and manufacturing plant/company operations run more efficiently with enhanced profitability. All of these factors demonstrate the key truth that Safety Excellence means Business Excellence.

No company can excel until it makes safety a way of life – and a way of doing business.



The annual cost of injuries and incidents is significant. Some costs are clearly visible. For example, the National Safety Council estimates that in the U.S. the average annual cost of injuries exceed US\$100 billion. This estimate includes costs associated with insurance administration, loss of wages, medical treatment, uninsured items, and incident investigations and reporting. In addition, indirect costs such as lost worker productivity, overtime, poor quality of goods and services, and damage to customer relations and public image can be 2-5 times the direct costs.

These costs can be multiplied again when one considers the cost to repair and replace damaged equipment and the opportunity cost of foregone production resulting from an unexpected disruption of operations. Often, many of these indirect costs are treated as hidden costs and as such represent a significant burden on the “bottom line” of many organizations.

As a global operating company with a global consulting services business focusing on Workplace Safety and Operational Excellence, DuPont is well positioned to observe macro-trends that are changing the business environment. Increasingly, DuPont is seeing that safety and operational excellence are top priorities for growth-oriented companies around the world. In working with clients, DuPont also sees many companies continue to struggle with profitability and sustainability while experiencing avoidable injuries to people and damage to equipment and assets.

As our world becomes more connected and competitive, and as societal expectations of employers and contractors continue to rise around the world, DuPont expects the trend toward safety and operational excellence to continue well into the foreseeable future. This trend will be fueled as more and more companies realize that in the long term, business excellence and safety excellence are closely related and not in conflict.

The Foundation for Excellence

In DuPont experience, the vast majority of injuries are caused when people exhibit unsafe behavior at the workplace.

For many managers, the occurrence of unsafe behavior among workers can be confounding. In some instances, there is a sense that the injured person "should have known better." However, these simple views ignore the true complexity of the workplace that is revealed when one gets hurt.

To find the root cause, one needs to consider the following:

- "How many times in the past has the worker been in a similar situation without being hurt?"
- "Did the worker fully understand all of the risks and probabilities being faced?"
- "Were employer expectations for the personal safety of the employee a top consideration and well known to the employee?"
- "What did the supervisor do [or not do] to help ensure the employee's safety?"



When incidents and injuries occur repeatedly, we know that common sense and the right People Protection Equipment are not sufficient to protect people, property and operations. While unsafe behaviors can be explicitly demonstrated by individual workers, another form of unsafe behavior is the absence of visible leadership – from supervisors and management.

To establish a strong foundation for safety excellence, including reducing the number of incidents and injuries, a safety management system is essential. DuPont has developed and uses a 22-element safety management system that addresses both the “hard”, technical aspects of safety management, as well as the “soft”, people aspects. The “hard” elements relate to the critical aspects of a company’s core technology as well as its facilities. These elements are absolutely essential to an effective safety management system for a hazardous industry. The “soft” aspects address the critical people-related issues associated with leadership for safety performance, organization for critical support and leverage and implementation in a way that drives worker involvement and continuous improvement. The 22-element system from DuPont is a powerful approach encompassing leadership, organization and operational components that guide organizations on a journey to zero injuries and incidents.

These elements include:

- Strong, visible management commitment (VMC)
- Clear, meaningful policies and principles (MPP)
- Integrated organization structure (IOS)
- Line management accountability and responsibility (LNA)
- Challenging goals, objectives and plans (CGP)
- Supportive SHE personnel (SHSP)
- High standards of procedures and performance (HSP)
- Continuous training and development (CTD)
- Effective two-way communication (ETC)
- Progressive motivation and awareness (PMA)
- Behavior and observations and audits (BOA)
- Thorough investigations and reports (TIR)
- Personnel changes
- Contractors safety management
- Quality assurance
- Pre-start-up reviews
- Mechanical integrity
- Changes in facilities
- Process information
- Changes in technology
- Risk assessment and process hazards analysis
- Emergency response and preparedness

Responsibility is clearly placed in the hands of line management, yet all employees are required to act in a safe way as a condition of employment. Training, auditing and correcting deficiencies immediately are intrinsic to the safety culture. There are no acceptable excuses for bad behavior.

Safety as a Core Value:

The Entry Point to Sustainable Excellence

Since the early 1800s, when E. I. du Pont introduced safety measures into novel construction techniques in his gunpowder mills such as the daily purging of matches from workers' pockets, DuPont has built an extraordinary reputation as one of the world's safest companies. Throughout two-century history of DuPont, it's core values have remained unchanged – safety, environmental stewardship, ethics and respect for people.

The Company today has a single corporate safety philosophy: All incidents are preventable... the Goal is Zero.

At DuPont, the company's safety culture is founded on a core set of guiding principles:

- All injuries are preventable.
- Management is responsible and accountable.
- All operating exposures can be controlled.
- Safety is a condition of employment.
- Employees must be trained to work safely .
- Management must audit.
- Deficiencies must be corrected.
- Off-the-job safety is an important part of the safety effort.
- Safety is good business.
- Safety must be integrated as a core business and personal value.

DuPont experience has also shown that safety and protection can be a strategic business value that links reduced workplace injuries to improved business performance. By leveraging it's over 200 – year history of safety and operating knowledge and experience, DuPont now helps other leading-edge companies and organizations make sustainable improvements in their insurance and operating costs, security, productivity, product quality, public image and employee morale.



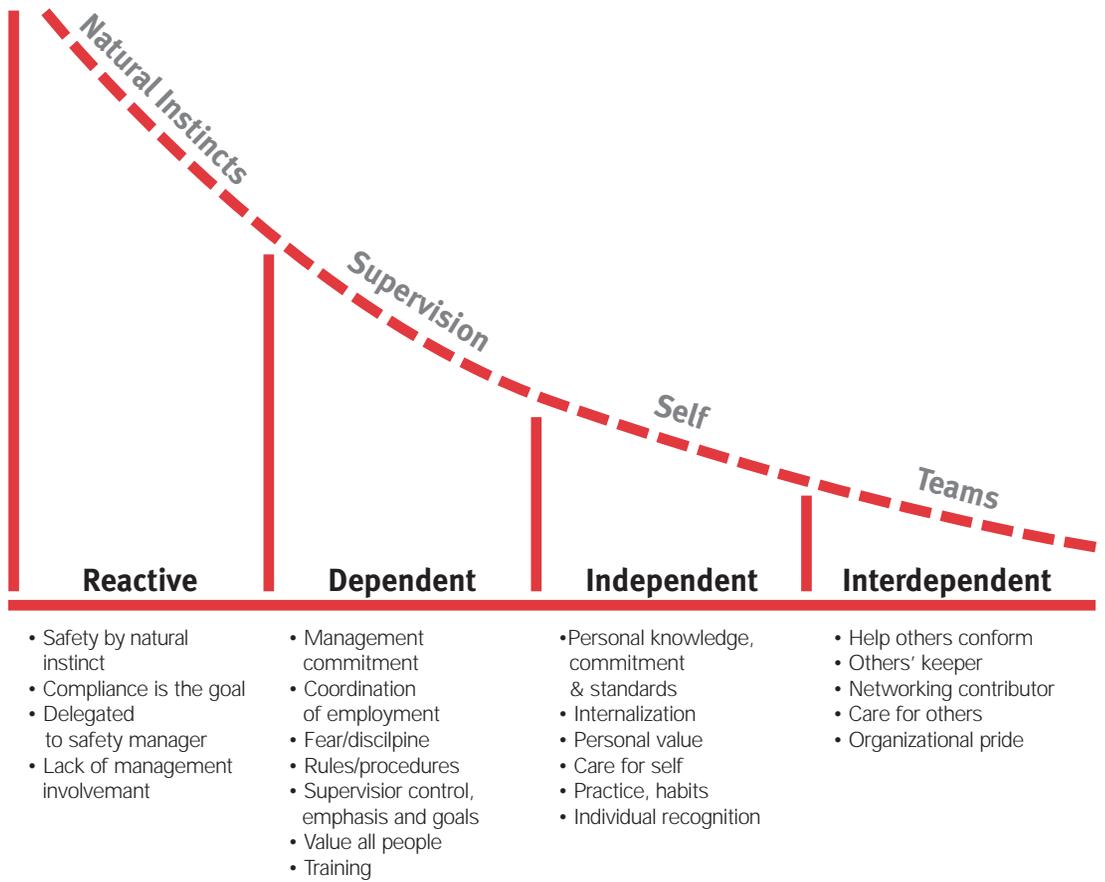
Safety as an Independent Culture

DuPont clients have seen significant drops in workplace safety incidents as they, with DuPont assistance, move from reactive approaches to safety to developing an interdependent safety culture. In an interdependent safety culture, all employees are responsible for safety and the safety of all employees is equally important.

The goal is to foster in each employee —whether it's an executive, manager, supervisor or worker— the attitude that doing one's job safely is an integral component of doing it well, and that safety is not a task which can be accomplished without helping and being helped by one's fellow employees.

Individual contributions to safety can range from efforts on the part of a factory worker to come to work alert and well-rested so as to avoid errors in judgment, to work schedule adjustments by a supervisor which ensure that workers do not become dangerously bored or tired on the job, to the redesign of the physical facilities and task structures by engineers (with direction from upper management) in order to help workers remain engaged in their work. Each of these components is necessary for attaining the overall goal of creating a safe and efficient workplace.

The following DuPont Curve graphically illustrates the changes that occur as a company moves from reactive to dependent to independent and finally interdependent within an organizational structure.



Felt Leadership and Safety

In any organization, there will be people on the left side of the curve and on the right. It is quite common to have individuals, specific assets and even business units at different stages of development within the same organization.

This is why leadership needs to drive the safety culture change – both collectively and individually.

While safety is a shared value by all employees in an organization, it needs to be actively embraced by leadership. This idea of “felt” leadership is integral to building a safety culture.

DuPont keys to good safety leadership include the following:

Visible Management Commitment

- Management's commitment to safety is seen and felt by all employees as genuine and deep.
- Safety is always considered in significant management decisions with the same priority as quality of service, cost and employee relations.

Clear Meaningful Policies and Principles

- The policy and principles inspire individuals by reflecting a unifying commonality, indicating the priority of safety and providing a clear basis for decisions.

Safety Goals and Objectives

- Safety goals, objectives and plans are a prominent part of the standard operating procedures.

High Standards of Performance

- High standards, applicable to all safety matters, are obvious to all employees.

Safety is Hard Work, but Rewarding

Embracing a safety culture is hard work. Unlike driving other business parameters, champions of safety may face the added challenge of having to help the workforce see safety performance as having the same level of importance as production, cost or schedule.

Reaching the goal of zero will occur only when all stakeholders are pulled together by a common purpose or vision. The common goal for both employees and contractors in the oil and gas industry is the wellness and safety of all workers.

Oil and gas company executives will ultimately achieve the level of safety excellence that they demonstrate they want. It is the responsibility of business leadership to embrace and drive the safety culture change, and to help their organizations move to a position of widespread operating discipline. Once a safety culture becomes established, it will be clear that safety leadership at the management level was a key factor in ultimately allowing more workers to come home safe to their families every day, and for company owners to have greater confidence that business performance is being driven for the positive.

Significant differences can be made by embracing safety leadership as a strategic business value. In the conduct of business in a global economy, safety is not optional. It is the core of a real business. And in the conduct of civilization, safety is also not optional. It is a necessary human value.

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Safety Culture and Sustainable World Class Safety Performance: A presentation to the ORBSP Safety Forum



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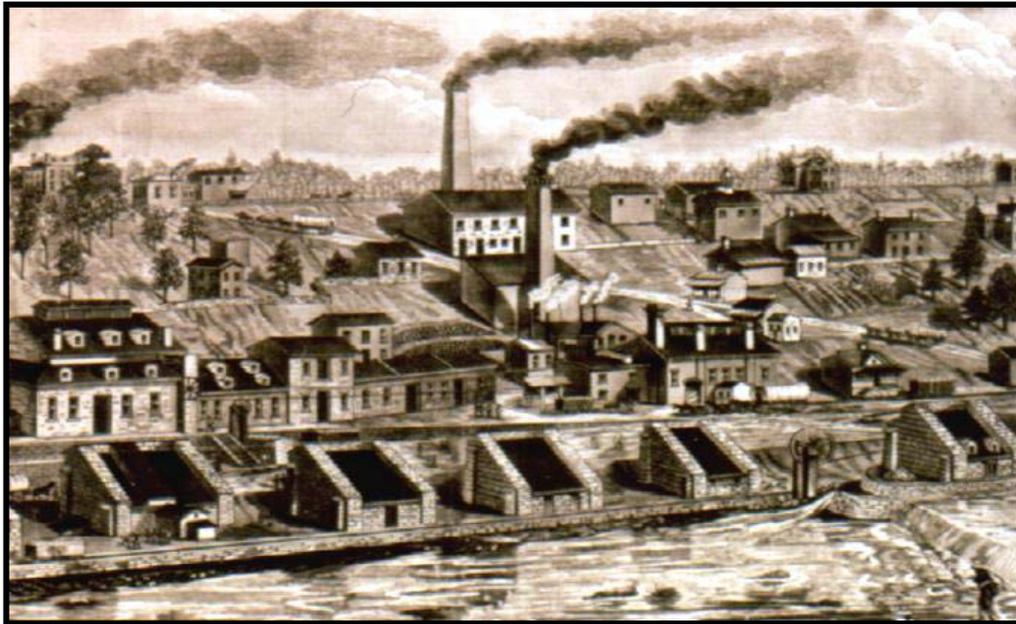
February 18th, 2009



The miracles of science™

With over 206 years successfully managing risks in high-hazard environments, safety has become part of our “DNA”

The DuPont Safety Culture



Powder mill operation began in 1802.

First safety rules established in 1811.

Safety is a line management responsibility.

No employee may enter a new or rebuilt mill until a member of top management has personally operated it. – E. I. du Pont

“Goal is Zero” established in 1990s.

Off-the-job safety program began in the 1950s.

Belief that all injuries are preventable developed in the 1940s.

Safety statistics began in 1912.

Trends in Workplace Safety

- Inadequacies in process safety management
- Escalating cost of injuries
- Global news and the Internet provide public insights into serious safety incidents
- Better tools to measure and manage safety performance
- Strong safety culture recognized as a key to achieving ZERO!



Challenges of Safety Management

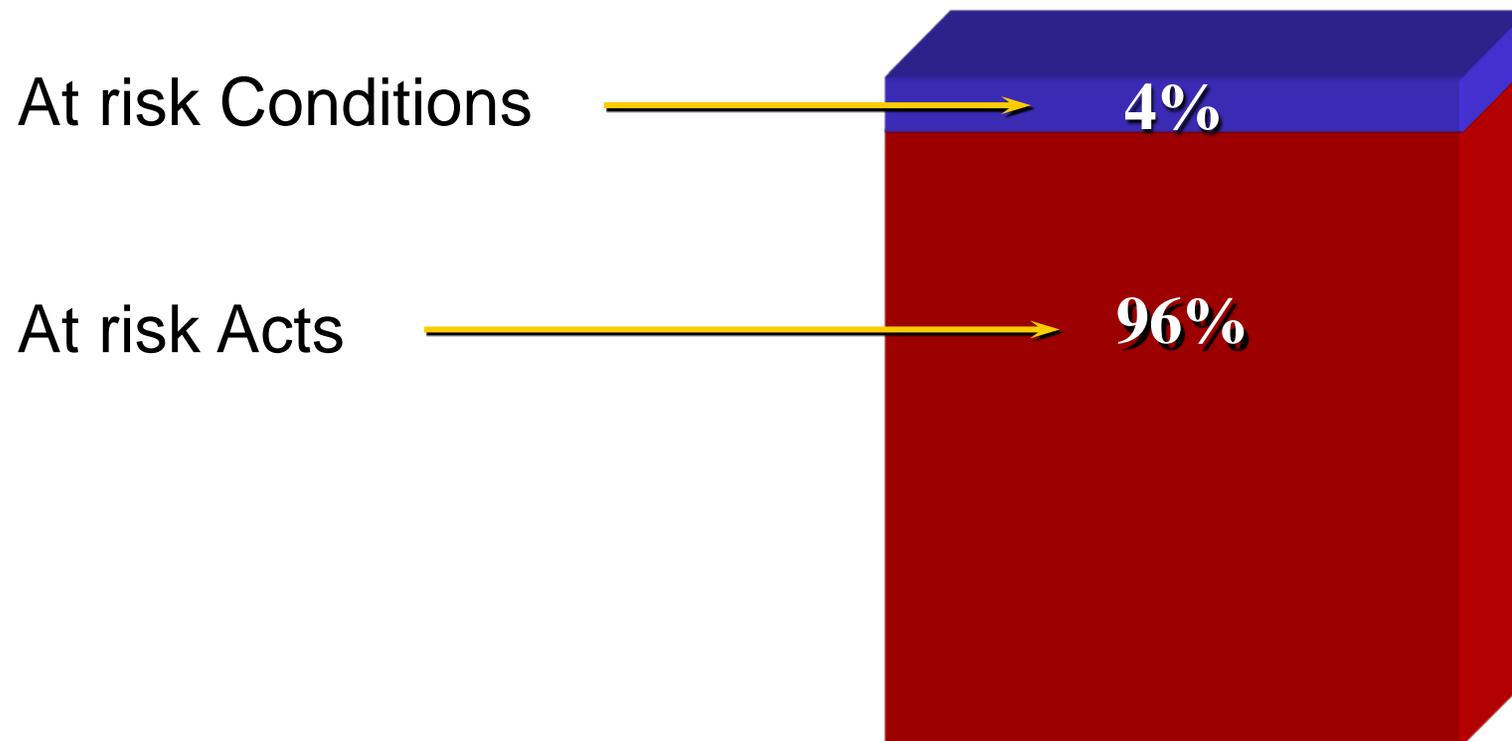
How do I know a Safety Program works?

- Why are some programs not effectively executed?
- Why are some rules simply not followed by employees?
- Is there a way to identify hidden pitfalls in a safety process?
- How does a company establish a benchmark by which to measure future safety performance?



Most injuries result from at risk acts rather than at risk conditions. Traditional safety programs focus on conditions rather than the acts that precipitate them.

...Where do injuries come from?



DuPont's safety management system is based on a set of principles that have repeatedly been proven across industries and cultures.

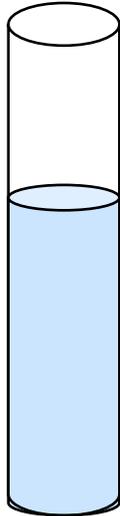
Safety Management Principles

- **All injuries and occupational illnesses can be prevented**
- **Management is responsible and accountable for preventing injuries**
- **Employee involvement is essential**
- **Prevention of personal injuries is good for business**
- **Working safely is a condition of employment**
- **All operating exposures can be safeguarded**
- **Training employees to work safely is essential**
- **Management audits are a must**
- **All deficiencies must be corrected promptly**
- **We will promote off-the-job safety for our employees**



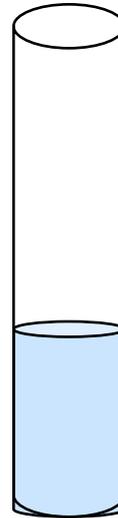
Safety Performance is a function of the Safety Management Systems and Level of Execution

Safety Management Standards



State of Safety Standards

Operational Discipline



State of Implementation / Execution

x

=

Operational Effectiveness

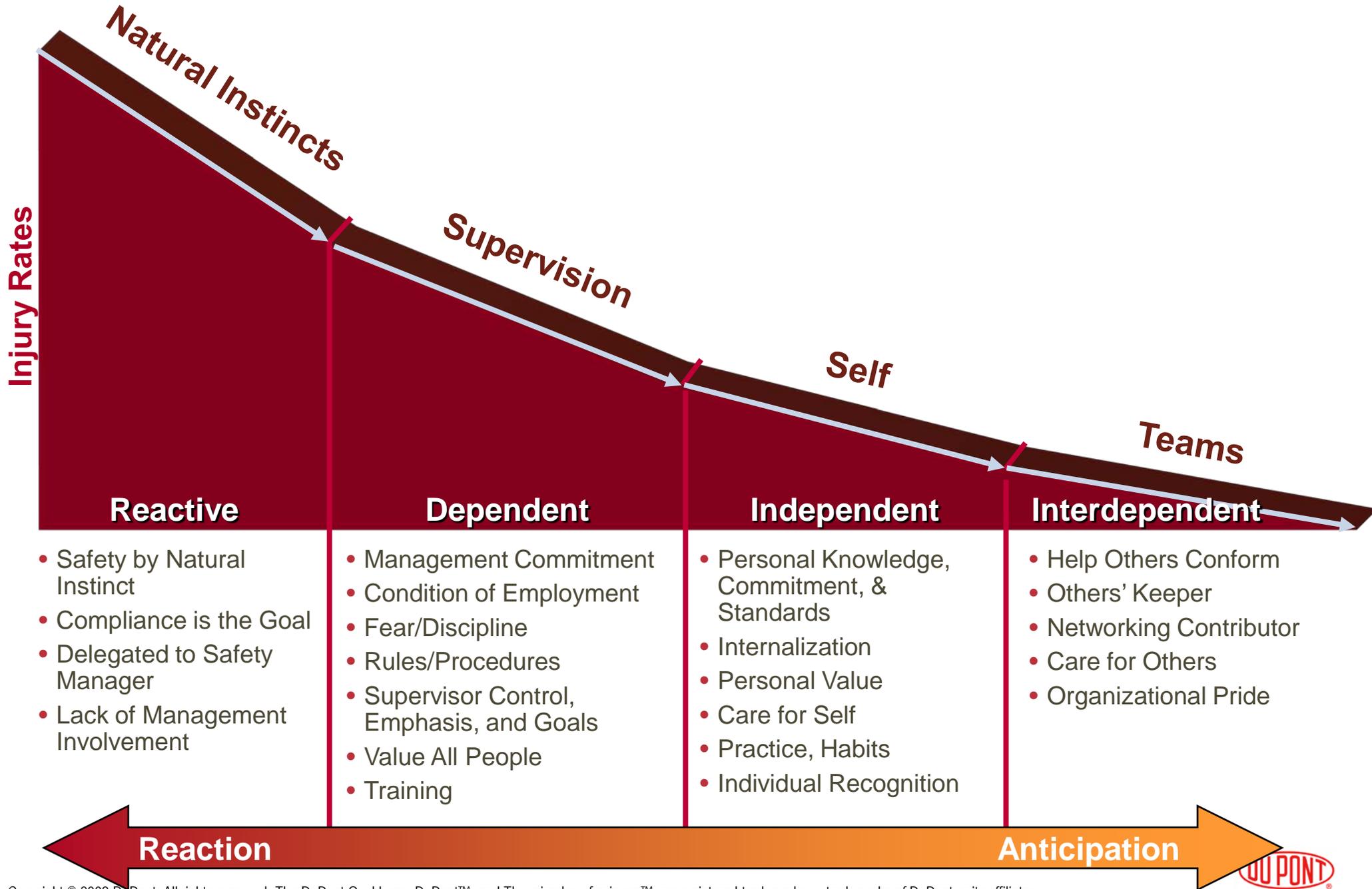


State of Operational Effectiveness

Achieving Safety Culture Excellence



DuPont Bradley Curve



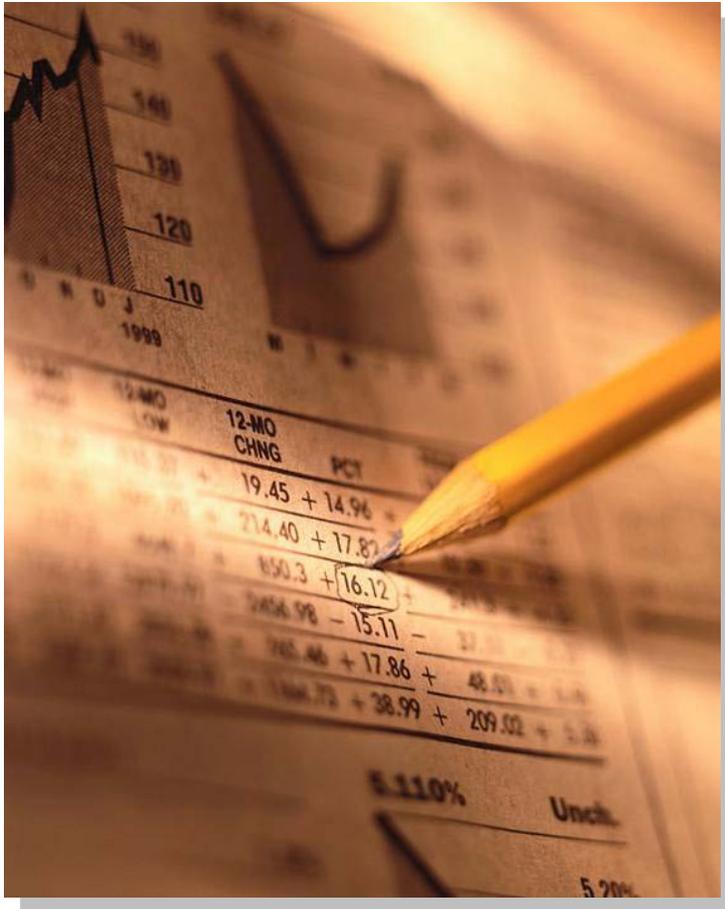
Understanding and Diagnosing a Safety Culture is a key element in the Drive to ZERO!

**How well do you know your
safety culture?**

How Do You Go About Understanding and Diagnosing a Safety Culture in the Drive to ZERO!

- How internally consistent is your safety culture?
- Does your safety culture vary across sites?
- Have recent events changed the culture?
- Do business goals compete with the safety focus?
- Do new employees receive the same training and hold the same values as long-term service employees?
- Does the pressure to 'do more with less' compete with your safety values?

Using Perception Surveys for Global 'Competitive' Benchmarking



- Did we reach our overall target or pre-established goal?
- Benchmarking helps you understand performance standards
- Analyze your company's safety perceptions against others in your industry or across industries

Many Benefits of Benchmarking

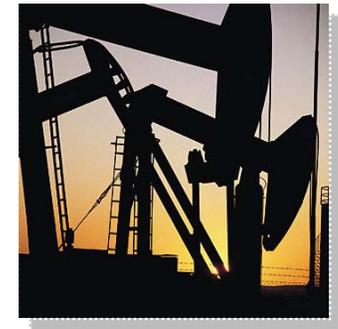
- Employees are more likely to accept data
- Employees see themselves as part of the bigger picture
- Shifts in corporate mind-sets
- Employees and Leadership both play a role in establishing performance targets and focusing resources
- Sharing of best practices among benchmarking partners



Global 'Competitive' Benchmark Data Updated Annually

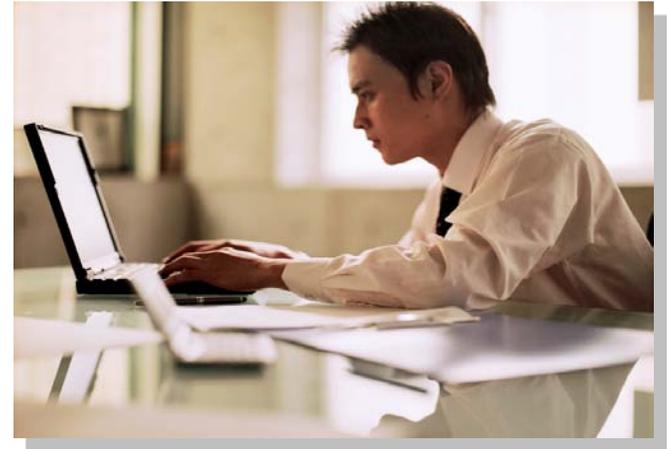


- **251,383+ Survey Responses**
- **55 Industries**
broad range including: energy, food, paper, chemicals, manufacturing and transportation
- **41 Countries**
- **1,687 Plant Sites**
- **9+ years of Data**

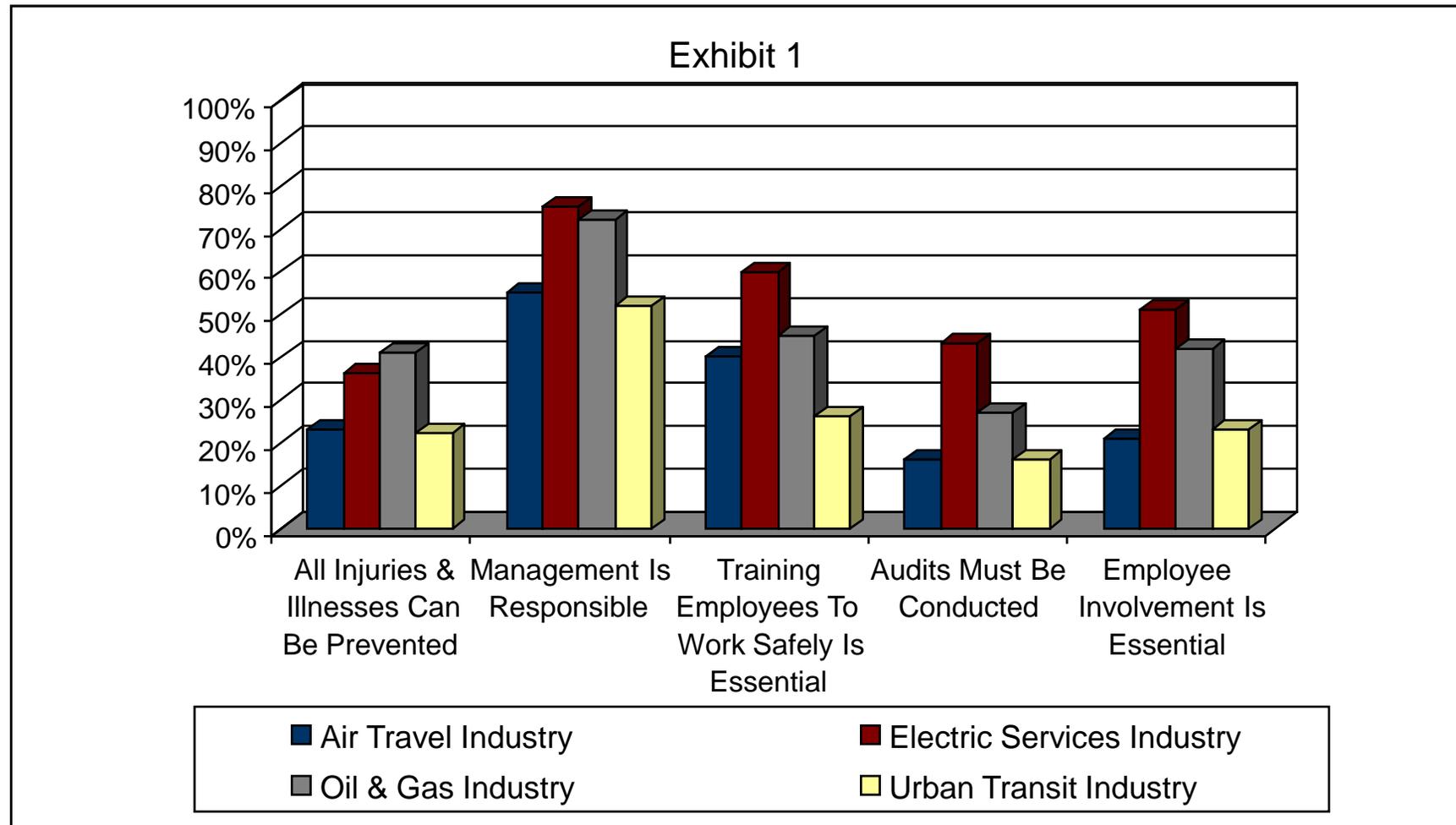


DuPont's Safety Perception Survey Effectively Measures a Company's Safety Culture

- 24 core questions
- Cross-section of employees
- Data is compared across departments, levels, responsibilities
- Test if safety is a core value held through all levels
- Examine employee involvement in audits incident investigation and safety meetings
- Understand hidden pitfalls in culture
- Identify culture gaps across sites



Safety Perception Differences Between Industries

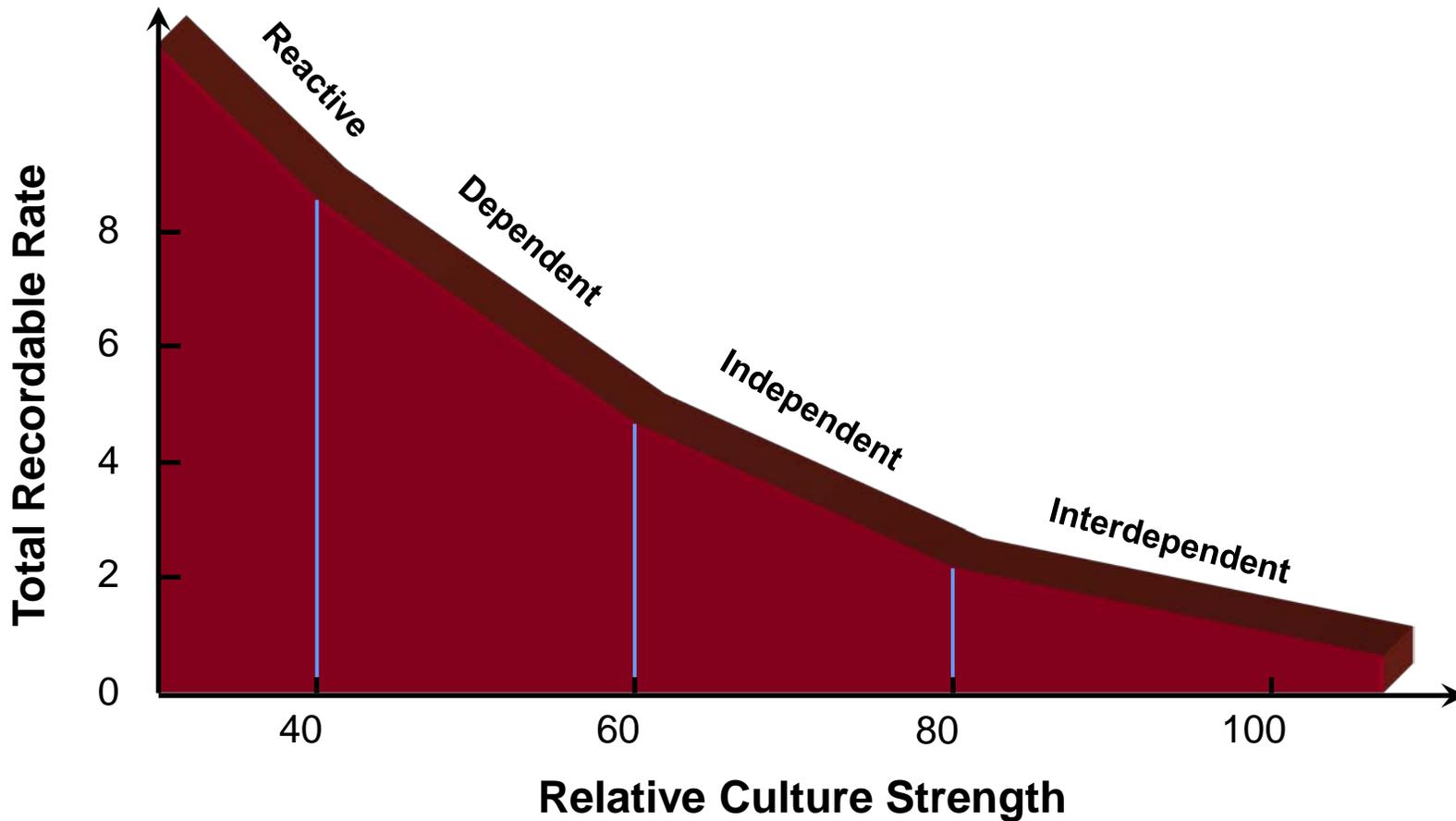


Benchmark World Class Criteria – Relative Culture Strength (RCS)

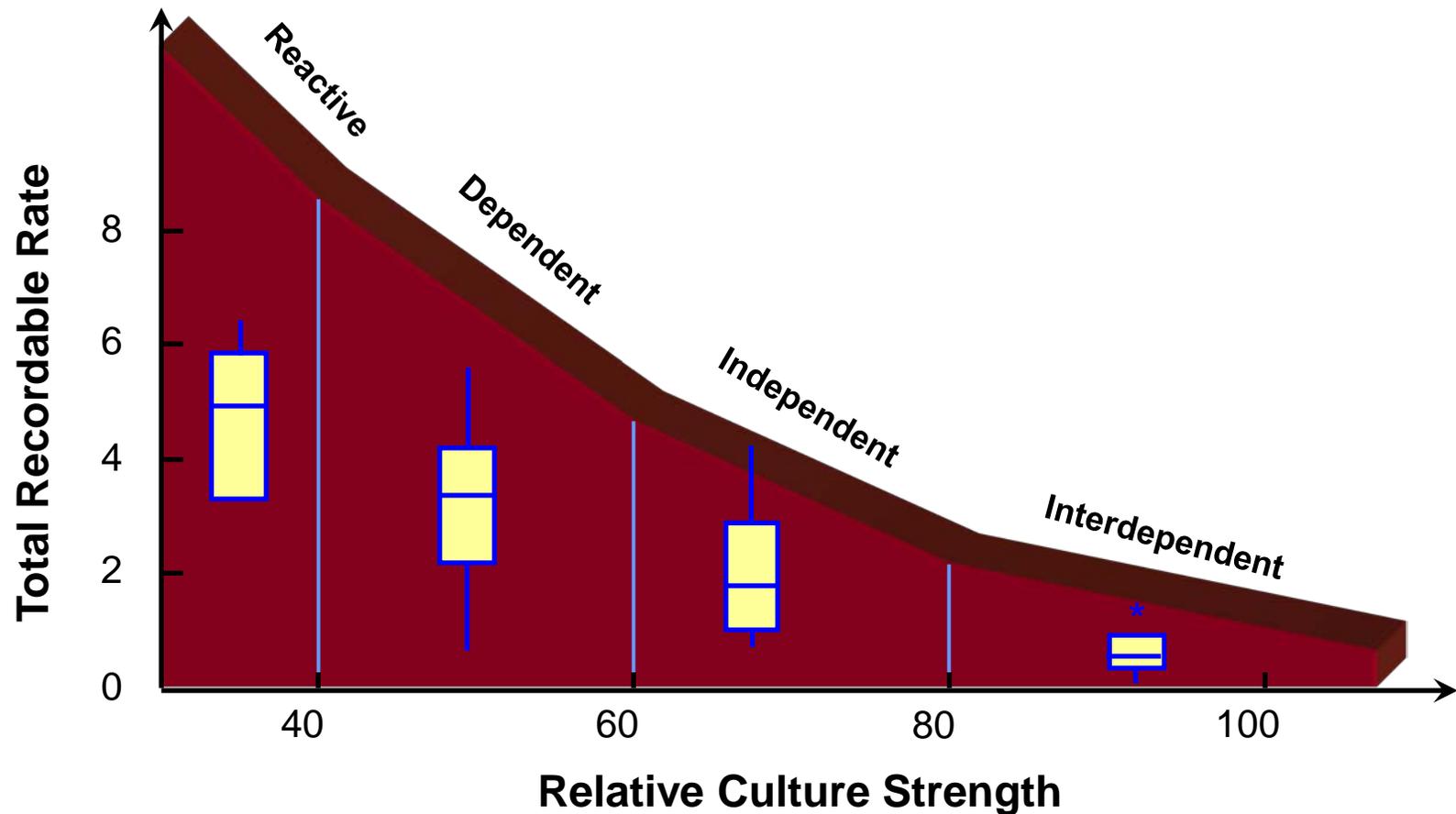
$$\text{Relative Culture Strength} = \frac{\text{Site Average Score} - \text{Benchmark Worst}}{\text{Benchmark Best} - \text{Benchmark Worst}} \times 100$$

- 'Benchmark Best' Companies Criteria
 - TRR < 1 over a 5-year period
 - No fatalities
 - Lost Workday Frequency Rate < 0 .25 over a 5-year period
 - No single year Lost Workday Frequency Rate > 0 .5 in a 5-year period
 - Site population > 200 employees

DuPont Bradley Curve – Relationship to RCS



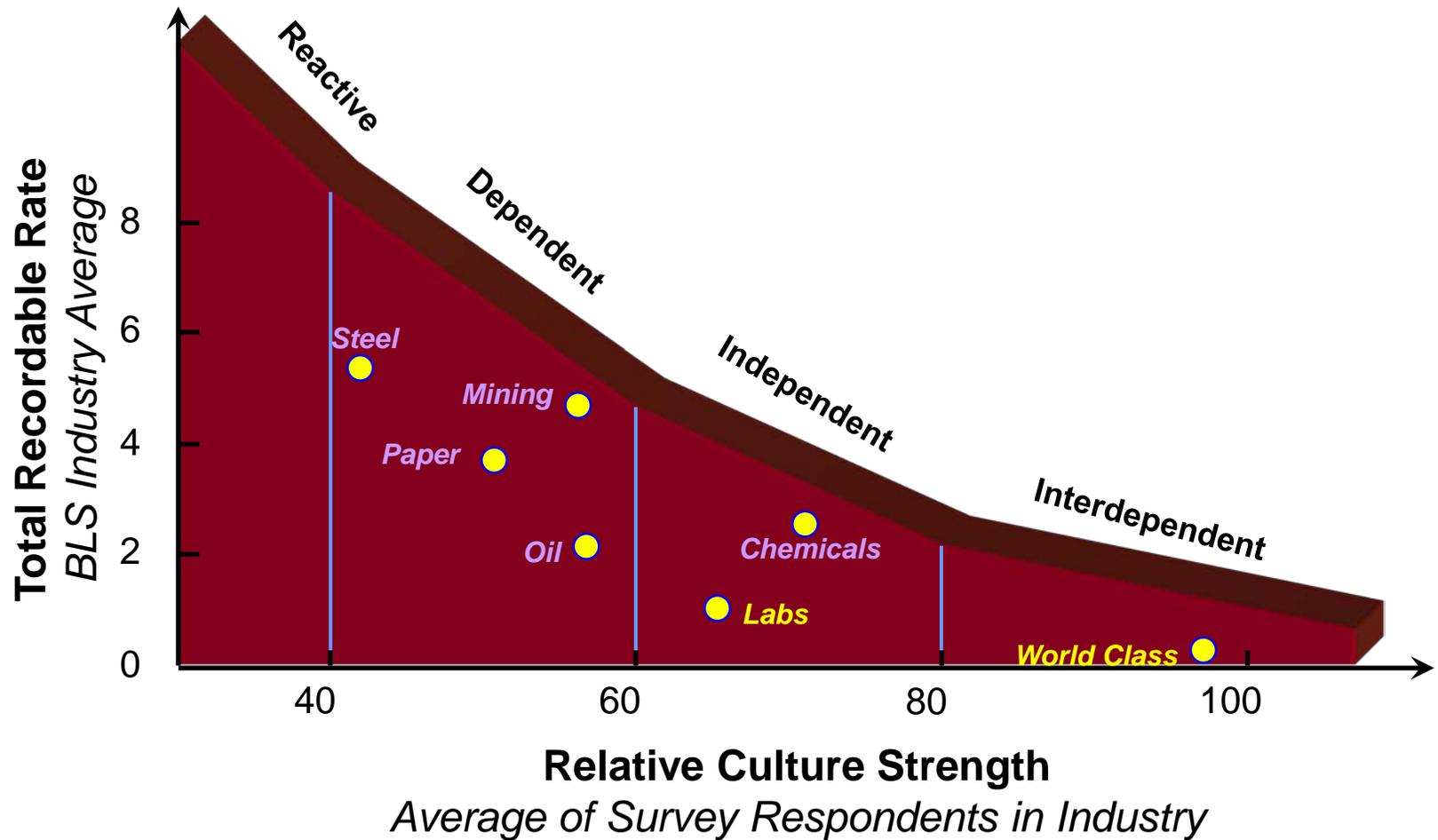
As RCS improves, TRR average and variability decrease!



NOTE: Data shown is derived from more than 25,000 survey responses from 53 sites in the 4 different industries listed above.

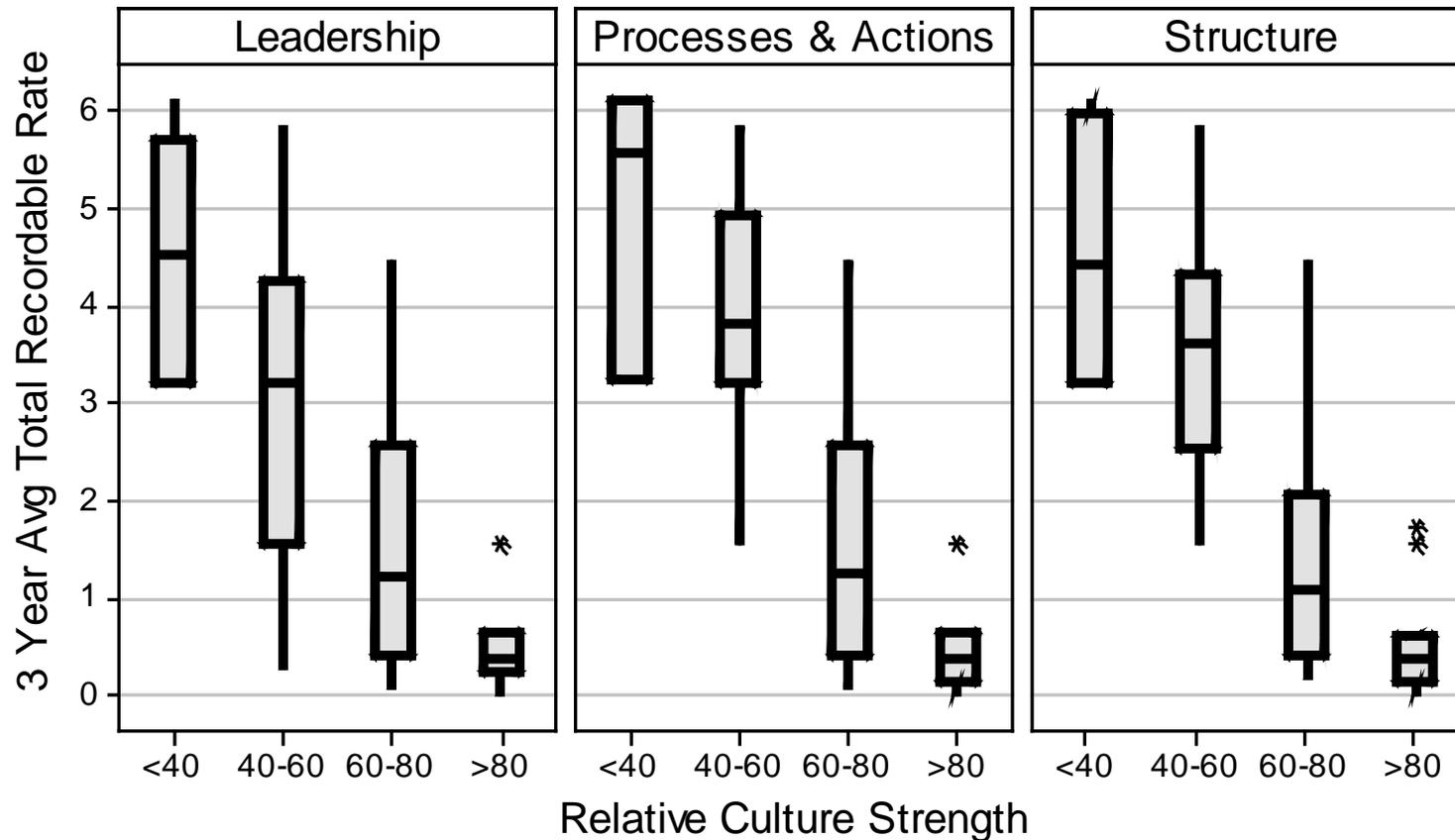


Industry Benchmarking



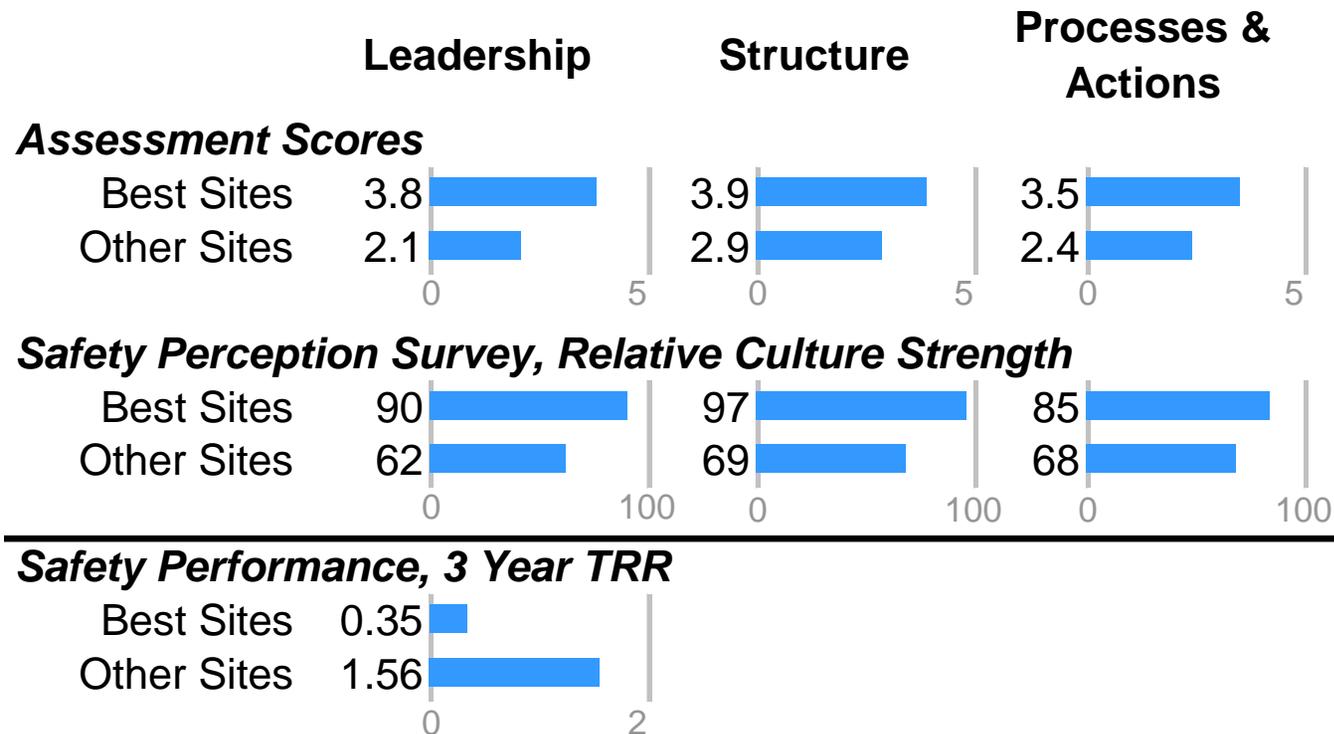
Achieving World-Class Safety Performance

Exhibit 3



Safety Performance improves as the strength of each dimension of Safety Culture increases

Safety Perception Surveys, Assessments, and Safety Performance all correlate



Best Sites: we assessed 4 sites with very good safety performance.

Other Sites: we assessed 22 other sites needing to improve safety performance.

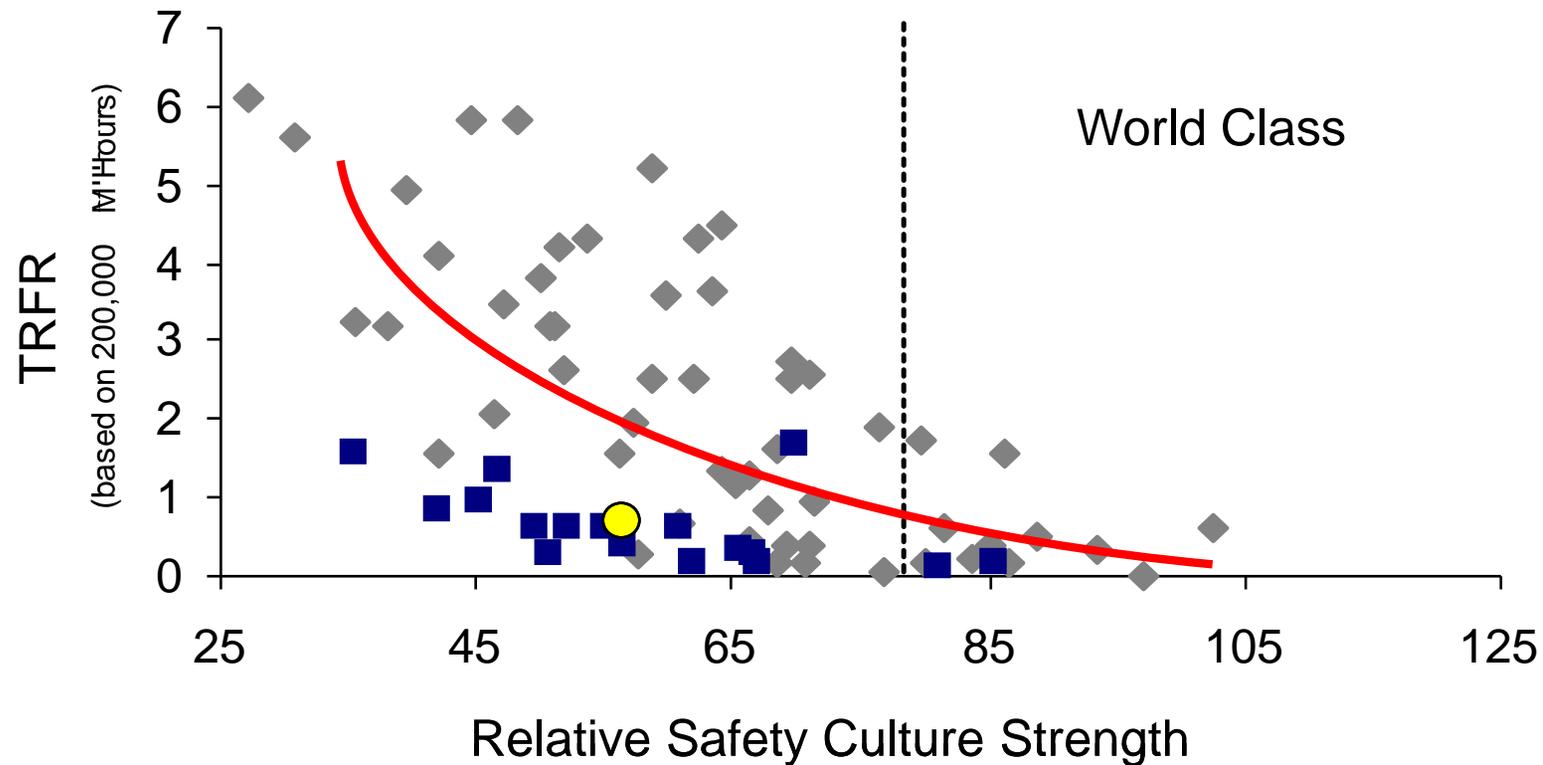
$$\text{Relative Culture Strength} = \frac{\text{Site Average Score} - \text{Benchmark Worst}}{\text{Benchmark Best} - \text{Benchmark Worst}} \times 100$$

DuPont Safety Perception Survey in Action

- Survey revealed:
 - lack of management commitment
 - breakdowns in communication
 - inconsistent safety leadership
- Visioning meeting to set priorities and initiate consulting engagement
- Re-surveyed after 15 months of training, coaching and counseling
- Results showed a significant improvement:
 - employee's perception of management commitment to safety
 - 45% TRR improvement in Y1
 - 40% TRR improvement in Y2



Individual Client Sites Resembled the Bradley Curve

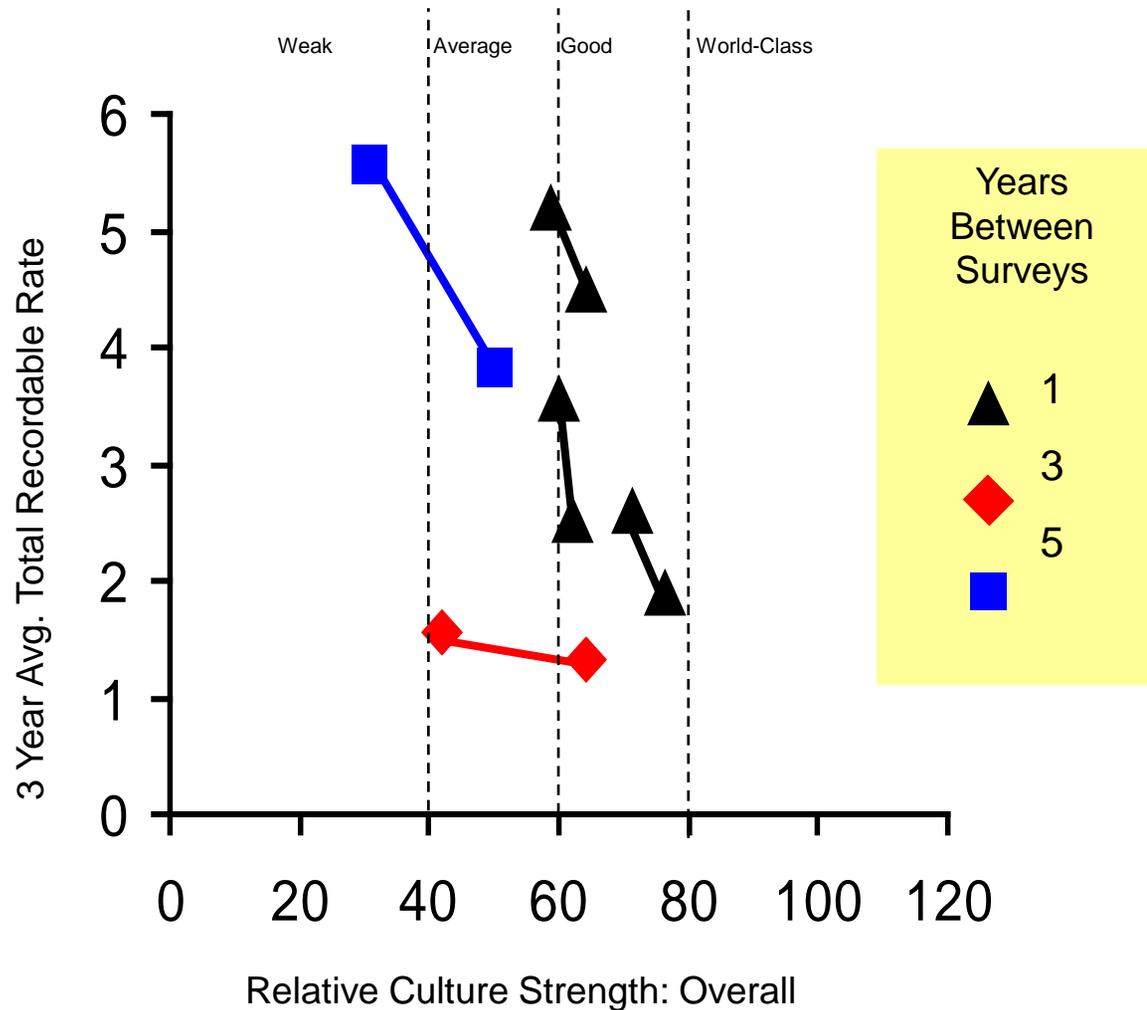


-  Client Mean
-  Individual Client Sites
-  Sampling of other client & benchmark sites

DuPont Bradley Curve Learnings

- Still valid today
- Most industries have moved out of the Reactive state (except in emerging economies)
- RCS correlates directly to the Bradley Curve
- As Relative Culture Strength improves safety performance improvement becomes more sustainable
- When a company reaches World Class, Interdependence state on the Bradley Curve, there is nearly uniform commitment to safety as a core value

Monitoring for Continuous Improvement



**Have you changed your Safety Culture or simply seen improvement in performance?
Is the gain sustainable?**



Surveying Your Safety Culture Is Critical to Building Sustainable World Class Performance

- There is no silver bullet
- An integrated safety management process is critical to achieving world class performance!
- Leadership commitment, an operating structure with employees involved in processes and actions are key components of a safety culture
- Strong safety culture is the unrealized factor
- Understanding your safety culture is key in developing different insights on where and how to improve your safety management processes

OPEN DISCUSSION

Safety

After more than two centuries



It's still our first thought.



DuPont Safety Culture Summary

In the Deputy Secretary of Energy's memo of 10/16/2009 entitled *INFORMATION: Record of Decisions Operations Management Council October 15, 2009*, agreement was reported to several key initiatives. Among these was to establish the Department's approach to regulating worker safety & health. Within this approach, the Deputy Secretary tasked the Under Secretaries, HS-1 and others to travel to the DuPont to examine that company's culture for managing worker safety and to interpret the applicability of their model to DOE. DuPont is a leading U.S.-based company operating in more than 70 countries offering a wide range of products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel. In preparation for this visit, the following is a summary of DuPont's safety posture along with an overview of the American Chemical Council (ACC) Responsible Care® program cited by DuPont as their model for implementing a safety, health and environmental (SHE) management system.

DuPont Corporate Direction

DuPont Vision, Mission and Core Values

Vision

To be the world's most dynamic science company, creating sustainable solutions essential to a better, safer and healthier life for people everywhere.

Mission

Sustainable Growth- Increasing shareholder and societal value while reducing our environmental footprint along the value chains in which we operate.

Core Values

- Safety and Health
- Environmental Stewardship
- Ethical Behavior
- Respect for People

DuPont Safety Culture

The DuPont Commitment – Safety, Health and the Environment

- Highest Standards of Performance, Business Excellence
- Goal of Zero Injuries, Illnesses and Incidents
- Goal of Zero Waste and Emissions
- Conservation of Natural Resources, Energy and Biodiversity
- Continuously Improving Processes, Practices and Products
- Open and Public Discussion, Influence on Public Policy
- Management and Employee Commitment, Accountability

DuPont Safety, Health, and Environmental Footprint Reduction Performance Indicators

- Total Recordable Injuries and Illnesses
- Global Carcinogenic Air Emissions
- Significant Environmental, Process and Transportation Incidents
- Global Greenhouse Gases
- Global Energy Consumption
- U.S. Toxic Release Inventory Waste & Emissions
- Global Hazardous Waste

DuPont and the ACC Responsible Care Management System

DuPont, as a member of the ACC, is implementing an SHE management system meeting the ACC Responsible Care Management System® (RCMS®) requirements. DuPont has been an ACC member for over 20 years and was a key developer of Responsible Care®. DuPont plant sites and businesses globally evaluate performance against the Responsible Care® Codes of Management Practices, and validate implementation annually. This is audited as part of the

long-standing SHE audit program. The RCMS® is a plan-do-check-act continuous improvement model, and ACC members are required to implement RCMS® for headquarters, businesses and sites covered under ACC membership.

American Chemistry Council's Responsible Care Management System®

American Chemistry Council Overview

- A full-service trade association representing the leading companies engaged in the business of chemistry
- 130 member companies represent approximately 85-90% of US chemical production by volume and approximately 2,000 domestic facilities
- Formerly known as the Chemical Manufacturers Association (CMA) & the Manufacturing Chemists Association (MCA)

What is Responsible Care®

- Global (52 countries), voluntary initiative to continuously improve and protect the environment and health, safety, and security (EHSS) of employees and community members
- A system to manage and communicate EHSS issues that goes beyond government requirements
- Increased product stewardship focus
- Founded by Canadians in 1985, adopted by ACC for United States in 1988
- Responsible Care Global Charter of 2006 formalizes broad areas of consistency, defines core elements
 - Upgrades performance commitments
 - Integrates with sustainable development
 - Aims to meet needs of less developed countries
- Detailed program content varies by country
- China, most of Africa, Russia not yet participating

Scope of Responsible Care®

- Mandatory requirements and accountability for all ACC members and Responsible Care Partners
- Improved performance across the value chain
- Communication with stakeholders essential to the Program

Responsible Care® Performance Metrics

The Responsible Care® initiative establishes a comprehensive series of standardized member company performance measurements, or metrics, through which individual companies and the industry track and publicly report results on an annual basis. In addition, Responsible Care partner companies each have a set of specific performance metrics, standardized by their appropriate business sector, which they are required to report on an annual basis. This process allows participating companies to benchmark performance and prioritize areas for continued progress. It also enables the public to understand how industry is working to improve performance and to track our results. ACC members and Responsible Care Partners are required to report company-specific performance data electronically.

- Environmental/Safety Metrics
 - Hazardous Air Pollutant Releases to Air
 - SOx/NOx Emissions
 - Net Water Consumption
 - Greenhouse gas intensity (lbs of CO2 equivalent net emissions per lb of production) indexed to base year
 - Energy efficiency (BTUs consumed per pound of production) indexed to base year
 - Number of process safety incidents
 - OSHA recordable and lost workday incidence rates – employees and contractors
 - Fatalities for employees and contractors
- Distribution Metrics
 - Number of DOT reportable distribution incidents, broken down by severity level
 - Is Responsible Care Partner status a consideration in your company's supply chain business decisions?
 - Reaffirmation of Security Code Implementation Status
 - Does your company have a process to prioritize its chemicals?
 - Is the process used to prioritize your chemicals available to the public? If Yes, how is it available?
 - Percentage of high priority chemicals with product stewardship summaries publicly available
- Outreach and Accountability Metrics
 - Community Outreach/Emergency Response
 - Certification of Responsible Care® Management System