

CATERPILLAR®

Caterpillar Confidential Yellow

FORWARD MINING



The Road To Safety

Working Together:

- Caterpillar
- Its Customers
- Its Dealers



“Safer by Design”

Resources for Safety

- Caterpillar University
- Caterpillar Safety Design Guide
- Product performance data from many sources
- A formal New Product Introduction program
- Excellent Operation & Maintenance Manuals and other product support documentation
- International Design/Performance Standards
- Global regulatory requirements
- Involved Customers... "zero harm"

CAT Safety Design Guide

- The accumulation of years of Caterpillar experience related to product safety
- Updated in 2003
- Available to designers online internally
- Product designed to these guidelines can be sold globally with minor changes
- SDG drives consistency on Caterpillar products with regard to safety

Global Performance Standards

- CAT uses globally-recognized international performance standards from ISO
- Encourage ISO/“Dual-Designation” in other venues
- Accept ISO: Russia, Japan, China, Latin America, Middle East, South Africa, etc.
- CEN (EU) & ISO generally technical equivalent
- Earthmoving machinery “type C” global standards are ISO or ISO-based

Design Safety Hierarchy

- Eliminate the hazard
- Guard against the hazard
- Warn against the hazard
- Train against the hazard
- Provide personal protection



The safety strategy at Caterpillar is designed to...

- Create a ***Safety Culture*** to match that of our customers
- Further ***Differentiate*** CAT products with safety
- Enable customers to buy units meeting internal standards & local regulations where practical
- Enable ***partnering with customers*** on initiatives related to Social Responsibility

CAT Critical Success Factors

- We will be recognized as a profitable, innovative, well-managed industry leader with a strong focus on ***social responsibility*** and ***sustaining the environment***
- We must have the ***best products, services, and solutions*** for each market segment
- We must maximize customer value through ***product support*** excellence

6 Sigma at Caterpillar

- CSF: “We will ***imbed 6 Sigma*** to drive continuous improvement throughout the value chain”
 - Fact-based, data-driven, & CEO sponsored
 - 2,761 Black Belts; 26,000 employees on teams
 - 4,065 Project Sponsors/Process Owners
 - 1,000’s of projects
 - \$950M: Research & Engineering / year
 - New Product Introduction (NPI) programs
 - Continuous Product Improvement (CPI)

“Voice of the Customer”



“The health & safety of our employees, our contractors & our community is our highest priority”

Which product features?

What are the related priorities?

	Type of Earthmoving Equipment					
	Hyd Excav	Trucks	TTT	LWL/WD	MG	All Types
Fires						
Operator Access						
Service Access						
Ergonomics						
Working at Heights						
Tire Safety						
Operator Fatigue						
Operator Visibility						
Braking System						
Service Lockout						
Operator Vibration						
Operator Training						
Maintainability						

	Caterpillar Confidential Yellow Priority Ranking			
	Haul Trucks	Tracked Dozers	Wheel Loaders & Dozers	Motor Graders
Operator Fatigue	1	6	5	7
Maintenance Activities	9	8	8	8
Proximity Devices - Collision Avoidance	2	7	2	6
Visibility	3	5	7	3
Noise	6	3	5	2
Equipment Access, Slips, Trips & Falls	5	1	1	1
Vibration - Ergonomics	8	2	3	3
Fuel Efficiency & Emissions	7	9	9	9
Fire Protection	4	4	4	5

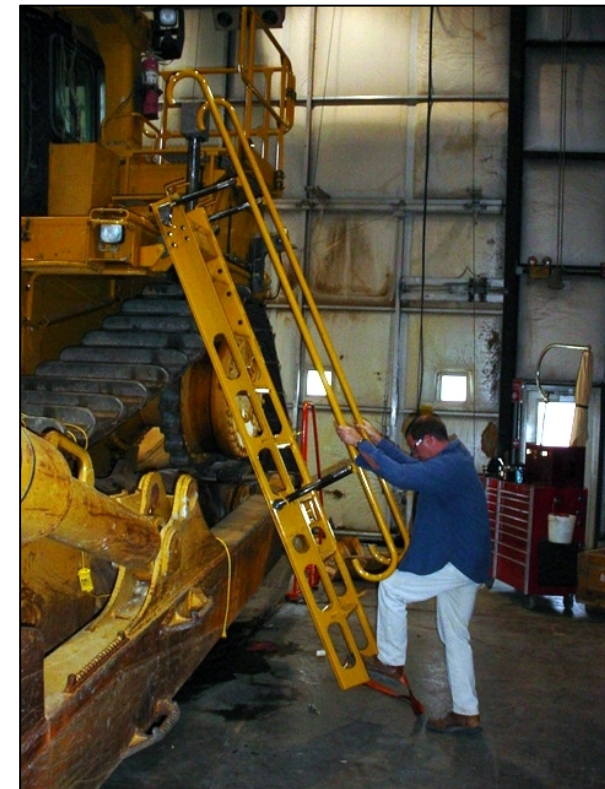
Social Responsibility Initiative

- 100% customer-pulled, defined, & prioritized
- 55 total projects
 - All mining product teams
 - 37 model feature projects
 - 11 general product feature projects
 - 7 research projects



Product Feature Examples

- Multi-point operator restraints on trucks
- Improved service/maintenance access
- Improved operator visibility
- More stairway access systems
- Service lockout functionality
- Backup alarm options
- HID lighting
- Whole body vibration
- Reduced operator noise
- Improved cab pressurization



Joint Project Examples

- Health, Safety, Environment & Community
 - Noise emissions
 - Fire prevention on trucks
 - Whole body vibration: trucks & tractors
 - Reduced fluids consumption & disposal
- Customer Cost Reduction Opportunities
 - Process & productivity improvements
 - Improved equipment reliability
 - Reduced maintenance & repair

“The kind of company I’d like to do business with is one that ...”

- Sets a high standard of integrity using its “Code of Worldwide Business Conduct”
- Identifies Social Responsibility & Sustainable Development as “Critical Success Factors”
- Identifies the safety of its employees and those of its customers as a “Critical Success Factor”
- Invests heavily in research & engineering to advance the industry state-of-the-art
- Provides the best products & best value

CATERPILLAR[®]

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FORWARD MINING

Social Responsibility



**SAFELY HOME.
EVERYONE. EVERY SHIFT.**

Supplemental Slides

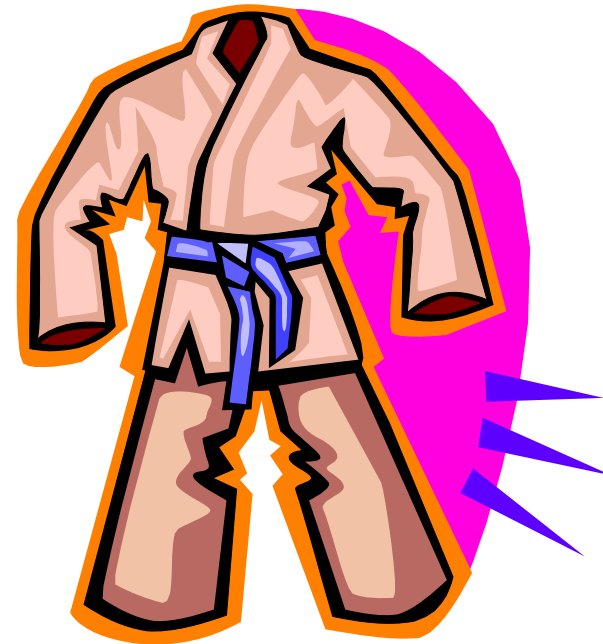
6 Sigma Is:

- **Relentless** quest for perfection
- Data-driven, **fact-based** decision making
- **Focusing** our best people on our highest priorities
- Improve the **processes**
- **Rigorous alignment** of actions with strategy
- **Measuring** bottom-line impact
- **Transforming** how people work

6 Sigma is about success!

6 Sigma Roles

- Executive Leadership
- Deployment Champions
- Project Sponsors
- Process Owners
- Master Black Belts
- Black Belts
- Green Belts
- Yellow Belts



6 Sigma Benefit Classifications

- Level I – direct benefits
- Level II – redeployments
- Level III – opportunities for future benefits and avoidances

- Why classify benefits?
 - Understand financial impact
 - External communications
 - Accretive model