

Process Safety Implementation in Huntsman

Presentation by Dr Bill Brooks

*to the International Conference on Process Safety
Performance Indicators*

Brussels, 1st February 2012

What Stimulated Huntsman's Current Programme?

- Two major process safety events
 - one external, BP Texas City, March 2005
 - one internal, Port Arthur Fire, April 2006

Fire - Port Arthur, TX, April 2006

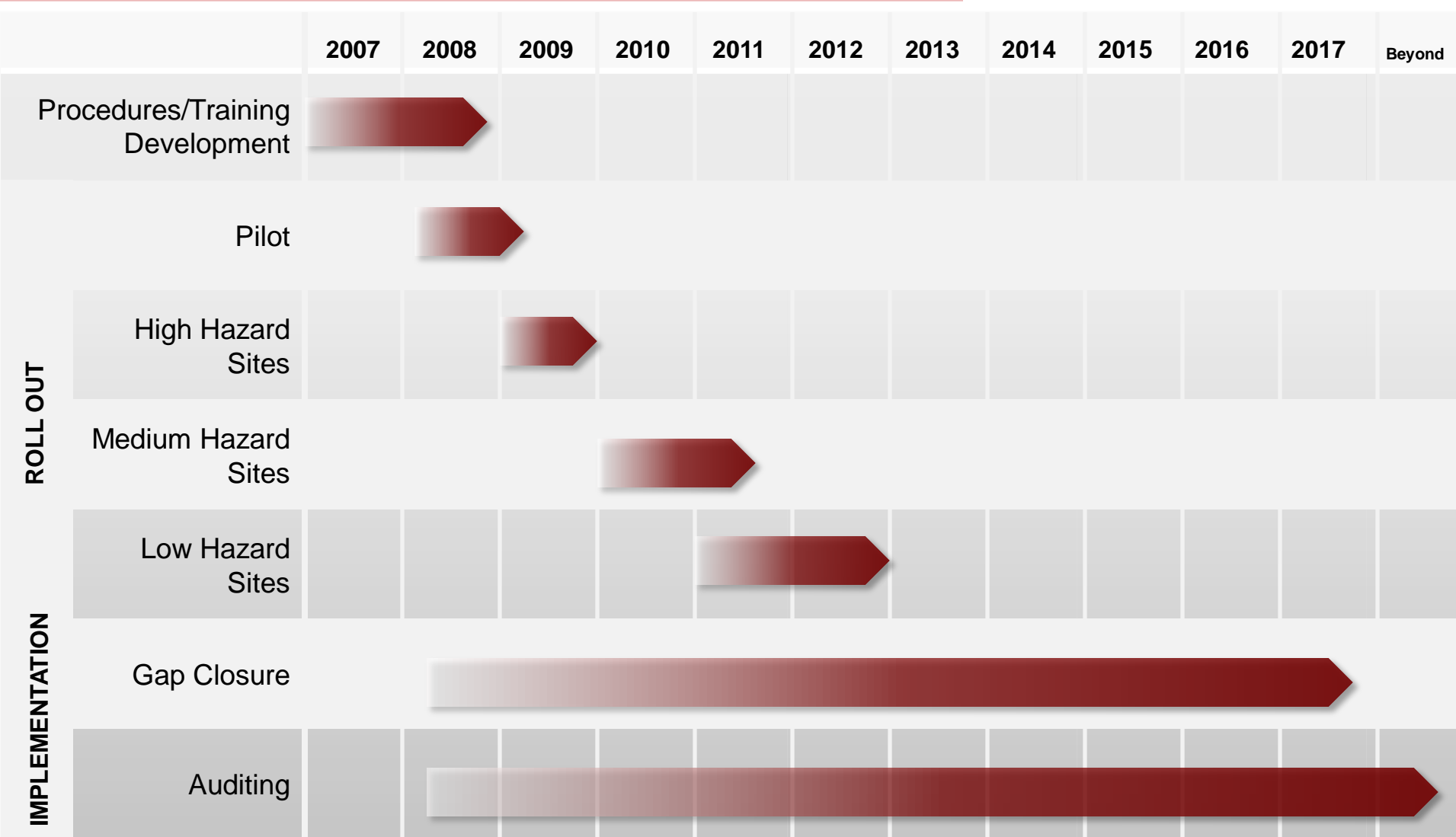
Ethylene cracked gas compressor feed line ruptured due to corrosion under insulation

No explosion – early ignition with jet fire

No fatalities



PS Procedure Roll Out and Implementation Time Line



23 New PSM procedures

Risk Assessment

- Risk matrix
- Process hazard analysis
- SIL assessment
- Facility siting
- Electrical area class
- Fire risk assessment
- EHS criticality
- Network security

Engineered Safeguards

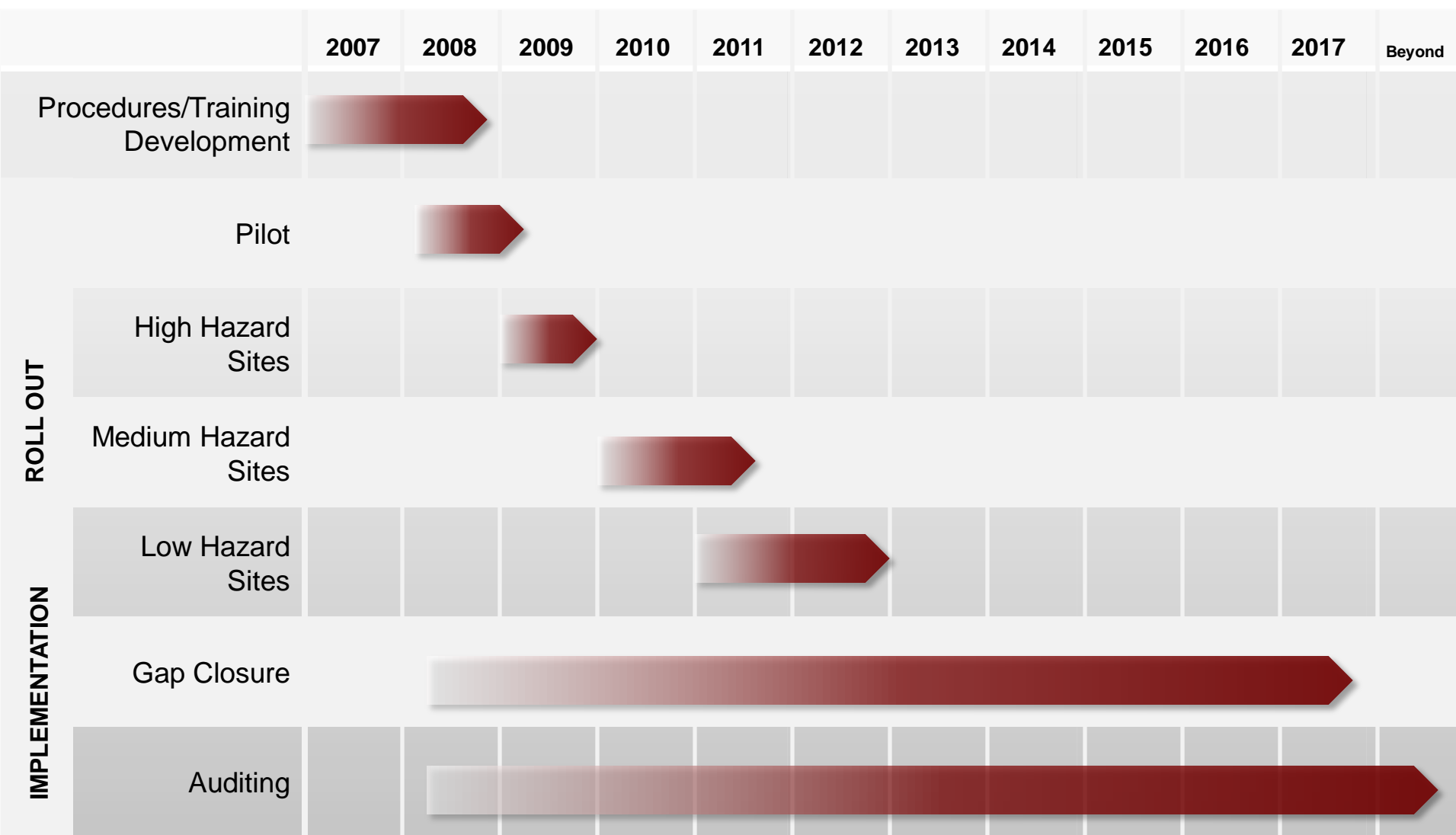
- Pressure relief
- Process safety information
- Safety system design
- Safety instr. systems
- Alarm management
- Design of safety inst. Functions

Administrative Safeguards

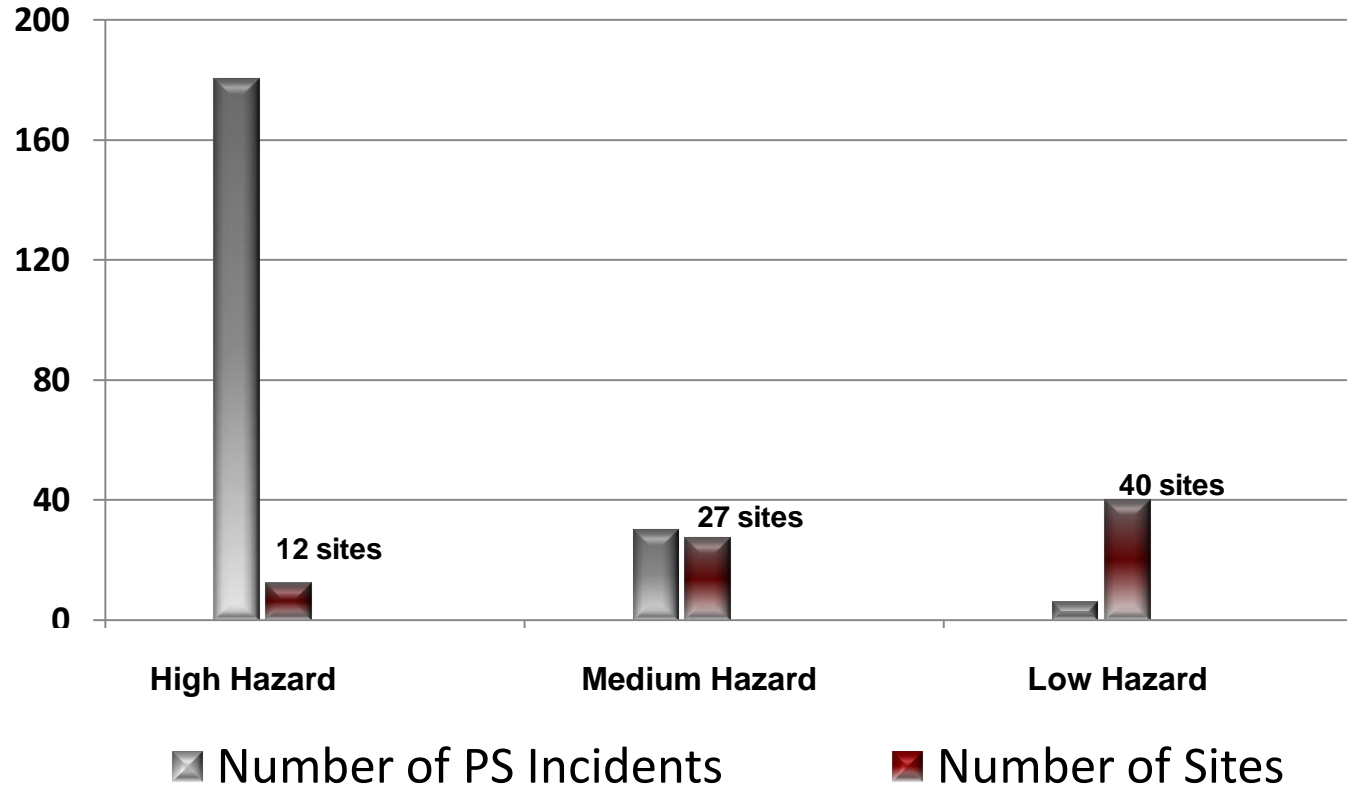
- Management of change
- Organizational MOC
- Qualified persons
- Operating procedures
- Incident investigation
- Mechanical integrity
- Design verification



PS Procedure Roll Out and Implementation Time Line

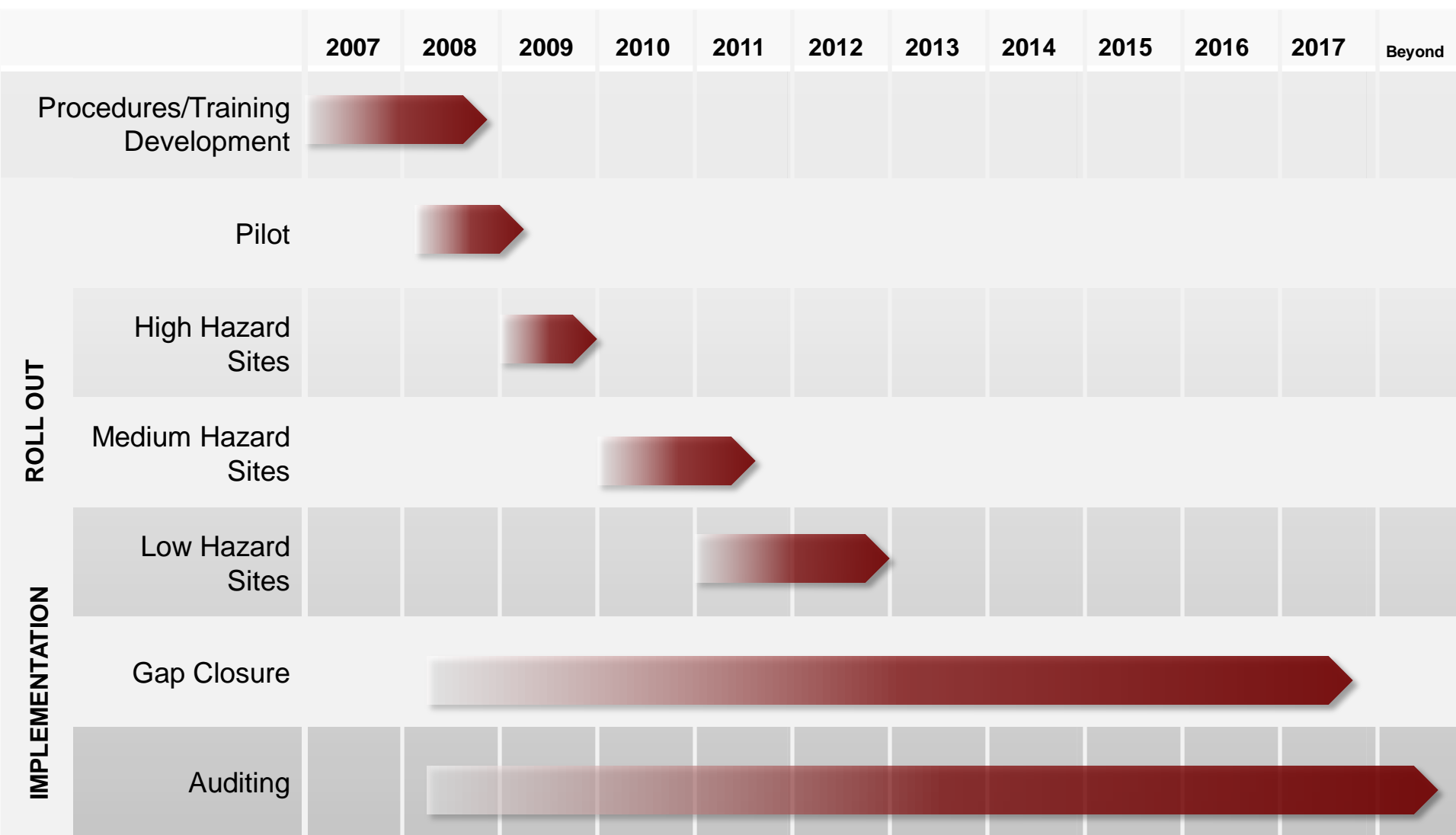


PS Incidents*: 2003-2010



* Internal definition; API-754 numbers would be about one third of these, or less

PS Procedure Roll Out and Implementation Time Line



Closing the Gaps Reduces the Likelihood of an Accident

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Engineered Safeguards

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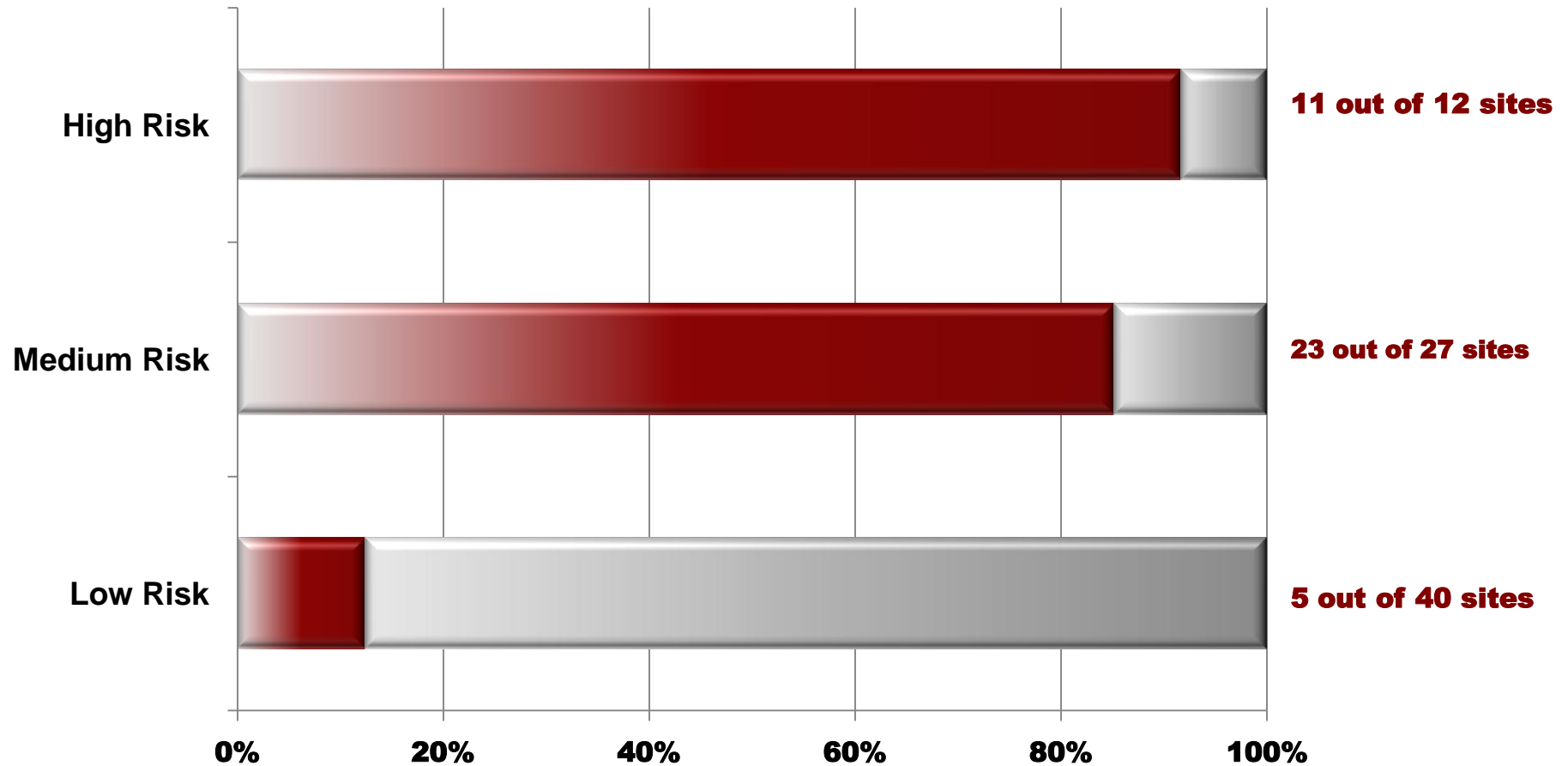
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PS Procedure Rollout Status

5 Yr Plan



Progress Opposite the Baker Panel and CSB Recommendations

Topic	Huntsman in 2006	Huntsman in 2012
Leadership	Patchy PSM understanding at Leadership level	Formal Executive training package Formal PSM governance structure Monthly review of KPI's
PSM Management structure	Global EHS Standards in place – but inconsistent interpretation of PSM elements	New PSM management system
Knowledge and expertise	Insufficient in many parts of Company	New Centres of PSM Excellence Qualified Person appointments Formalised Organisational MoC process

Progress Opposite the Baker Panel and CSB Recommendations

Topic	Huntsman in 2006	Huntsman in 2012
Accountabilities	Line management accountabilities defined in EHS Standards	Clearer line management accountabilities
KPI's	Metrics database	New KPI's Executive scorecard
PSM auditing	Auditing against EHS Standards and regulatory requirements	+ audits against new procedures
Board monitoring	EHS but not PSM-specific	Monthly reports to CEO and Leadership Team Updates to external directors
External	Internal process only	Industry body participation benchmarking