



Health, Safety & Environment

Introducing Maximo Health, Safety and Environment Manager

Dean Ely
Senior Sales Consultant, IBM Corporation



Business without **LIMITS 2012**



Agenda

- Introductions and Agenda
- What is Health, Safety and Environment; who is interested and investing; and why is it important?
- Maximo Health, Safety and Environment Manager
- A Solution Fit for Maximo
- Customer Case Studies
- Maximo Competitive Differentiators
- Questions



What is Health, Safety & Environment Management?

- The processes and programs organizations use to ensure the health and safety of:
 - Employees
 - Consumers
 - Communities
 - Environment



What is driving Health, Safety & Environment and Sustainability needs?

- **Profitability & Productivity**
 - Making sure materials are under compliance, improving productivity and product quality
- **Operating Costs**
 - Eliminating downtime caused by non-compliance, fines, accidents and/or safety incidents
- **Capital Investments**
 - Considering regulatory requirements and overall health, safety, and environmental implications
- **M&A, Divestitures, Joint Ventures**
 - Implementing a health, safety & environmental system and processes that can change with the business
- **Risk Management**
 - Avoiding fines, work stoppages, plant downtime, inventory losses, damaged reputations, supply chain disruptions



What are the Health, Safety and Environmental Business Drivers for Asset-Intensive Companies?



Asset-intensive companies must:

- Provide safe and reliable operations
- While:
 - Supporting business growth, and
 - Strengthening enterprise/operational risk management

In addition,

- Asset intensive companies are under increased pressure to:
 - Control cost,
 - Accurately track recordable injury data,
 - Maintain easily accessible material hazard information, and
 - Mitigate hazards



- HS&E administrators are looking to assure they are in compliance, and that their facilities meet complex regulatory reporting requirements

- Operations managers are looking to link Health, Safety and Environment information with plant asset information



Are companies weighing in on the importance of Health, Safety & Environment ? You bet!

ExxonMobil

Taking on the world's toughest energy challenges.™



“ ExxonMobil is committed to conducting business in a manner that protects and promotes the safety and health of our employees, those involved with our operations, and the communities where we work”

Lilly

As a health care company, Eli Lilly and Company is committed to the present and future well-being of people and the environment in which we live.

Build health, safety, and environmental considerations into all phases of the business, including product and technology discovery and development, facility design, operation and maintenance, and product delivery

ADM

“ ADM is committed to the safety of our colleagues, contractors, and business partners. ADM is also achieving notable gains in the area of Total Process Safety – the approach we take to help minimize the risk of incidents at our facilities”



“ Our #1 priority – Be among the best industrial companies in safety by ensuring a safe and healthy work environment for our stakeholders”



Introducing Maximo Health, Safety and Environment Manager

The primary objective of Health, Safety & Environment initiatives is to: reduce overall risk, comply with appropriate regulations, and create a safe yet efficient operating environment

Achieving this objective is as much about standardizing HS&E practices as integrating these practices with day-to-day operations management.

Maximo Health, Safety, and Environment Manager provides a foundational enterprise platform that integrates Health, Safety, and Environment processes with work and asset management.



Safety and quality must have higher priority than costs and schedule. This message has to be very clear and transmitted by the companies' management to all levels of the organization ...

Jukka Laaksonen, VP – Rusatom Overseas



Maximo Health, Safety and Environment Manager

Critical Business Processes

Health, Safety & Environment Applications Supporting Maximo Processes



A Solution Fit for Maximo



It is often latent conditions created by maintenance lapses that set an accident sequence in motion or threaten its recovery..

An organization must possess the technical competence necessary to achieve safety goals..

*Competence is very closely related to the quality of an organization's safety information system.. **

* J. Reason, 1997. Managing the Risks of Organizational Accidents

- A new debate is brewing –
 - Are safety and reliability on equal footing? If not, should they be?
- Facts
 - All companies have safety as a top priority
 - Few companies have reliability as a top priority
 - Data suggests that a reliable plant is a safe and environmentally sound plant

IBM Maximo, with its market leading enterprise asset management solution, addresses reliability and defect elimination.

Now, with its Health, Safety and Environment Manager solution, IBM Maximo will help companies provide a reliable and safe work environment.



A Solution Fit for Maximo

Helping Companies Identify and Control its Health and Safety Risks, Reduce the Potential for Accidents, Aid Legislative Compliance, and Improve Overall Performance

International Standard 18001 - OHSAS	Maximo Health, Safety and Environment Manager
Planning for hazard identification, risk assessment, and risk control	Risk Assessment, Risk Matrix, Hazards & Precautions
OHSAS management program	Non-conformance Management, Regulatory Compliance
Structure and responsibility	Operating Procedures, Operating Policy, Permit Planning
Training, awareness, and competence	Personnel Certification Tracking
Consultation and communication	Workflow and Collaboration
Operational control	Operator Log, Management of Change, Action Tracking
Emergency preparedness and response	Failure Reporting, Incident Management
Performance measuring, monitoring and improvement	Benefits & Losses, Investigations, Improvements, Solutions



A Solution Fit for Maximo

- We believe compliance is the foundation for our EHS practices**

- We strive to meet or exceed all applicable EHS regulations, company standards and voluntary initiatives to which we subscribe.
- Everyone, at all levels of our organization, is accountable and responsible for environmental, health and safety compliance. In this way, EHS is a part of our culture and a driver of sustainable growth.

- We believe health and safety are essential to build a sustainable workforce and business.**

- We foster a culture of health and safety, where the health and safety of our employees, contractors, suppliers, partners and customers is one of our most important values. We use health and safety management systems to identify hazards, to drive continual improvement, to help us build a culture of health and safety, and to position us as a health and safety leader.

- We minimize our impact on the environment.**

- Environmental impacts are considered in our business decisions and actions. We pursue a path of continual improvement to investigate, understand, and mitigate environmental risks using robust management systems. Combining this approach with lifecycle planning, we minimize the environmental impact of our products throughout their complete lifecycles. We educate our employees, our supply chain partners, and other interested partners about our efforts and expectations in this area.

Maximo Health, Safety and Environment Manager's Capabilities

Regulatory Compliance, Operating Policy

Competency Management, Personnel Certification Tracking,

Defects, Failure Reporting, Action Tracking, Risk Assessment, Risk Matrix, Audits & Surveys



Johnson & Johnson

Johnson & Johnson is committed to environment, health and safety (EHS) excellence. Our Credo defines our core aspirations, and our EHS practices bring those aspirations to life.

Incident Management, Investigations, Improvements, Management of Change



A Solution Fit for Maximo

<i>Cummins' common practices and approaches to improve customer satisfaction and profitability</i>	<i>Functionality within Maximo Health, Safety and Environment Manager</i>
Put the customer first and provide real value	
Synchronize flows (material, physical and information)	Incidents, Investigations, Condition for Work
Design quality in every step of the process	Non-conformance management, Operating Policy, Operating Procedures
Involve people and promote team work	Training tracking, After Action Reviews, Solutions, Benefits and Losses
Ensure equipment and tools are available and capable	Operating Procedures, Safety Related Procedures Reporting
Create functional excellence	Management of Change, Operating Policy, Regulations
Establish the right environment	Integrated Work and Safety Management, Incident Reporting
Treat preferred suppliers as partners	
Follow common problem solving techniques	Risk Assessment, RCFA, FMECA
Use Six Sigma as the primary process improvement method	Defect Elimination



Cummins Operating System



A Solution Fit for Maximo

Three leading indicators have been incorporated into NYPA's overall health and safety program:	Capabilities in Maximo Health, Safety and Environment Manager to reinforce NYPA's safety program – Safety is an Attitude
Near Miss Reporting and Tracking	<ul style="list-style-type: none"> • Defects • Investigations • Condition for Work • Incidents
Tailgate Talks	<ul style="list-style-type: none"> • After Action Reviews • Improvements • Solutions
Safety Walk Downs	<ul style="list-style-type: none"> • Personnel Certification Tracking • Operator's Log • Audits & Surveys (next release)
NYPA will institute programs to enhance the health, safety and well-being of our employees	
Conduct an industrial hygiene analysis at all NYPA generating sites with a particular emphasis on noise and indoor air quality	<ul style="list-style-type: none"> • Operating Policy / Procedures • Regulatory Compliance
Enhance Job Safety Analysis to include a checklist of potential steps for completing common maintenance activities and procedures to minimize workplace injury or illness associated with completing each job	<ul style="list-style-type: none"> • Failure Reporting • Risk Assessment • Risk Matrix • Management of Change • Action Tracking • Permit to Work (next release)



Safety is an Attitude

A key tenet of NYPA's health and safety program – that "Safety is an Attitude" – is continually reinforced for the benefit of every employee and contractor.

Generating Sustainability
Annual Report - 2011



A Solution Fit for Maximo

Gilead's recent EH&S position posting (5/21/2012): to provide visible support and assistance to minimize hazards and risks and improve safety performance	Capabilities in Maximo Health, Safety and Environment Manager to help Gilead's Environmental, Health and Safety Needs
Conducting incident investigations and tracking the completion of associated corrective actions	<ul style="list-style-type: none"> • Incidents • Investigations • Management of Change • Action Tracking • Regulatory Compliance
Conducting risk assessments for new laboratory equipment and processes	<ul style="list-style-type: none"> • Risk Assessment • Risk Matrix • Condition for Work
Participating in site-wide inspections and audits, preparing findings memos and developing and implementing corrective and preventive actions	<ul style="list-style-type: none"> • Defects • Failures • Audits & Surveys (Q1/2013)
Conducting EH&S training as appropriate	<ul style="list-style-type: none"> • Personnel Certification Training • Improvements • Solutions • After Action Review • Benefits & Losses
Preparing, revising and implementing standard operating procedures, work instructions and compliance plans	<ul style="list-style-type: none"> • Operators Log • Operating Policy / Procedures



“As a company driven by science and dedicated to improving patient care and quality of life, Gilead is committed to such standards, as adherence to these protects patient safety, the company, its employees and business customers.

Gilead's Business Conduct Manual
U.S. Operations



A Solution Fit for Maximo

Herman Miller's Safety Policy: To drive continual improvement in Occupational Health & Safety management and performance, we will:	Capabilities in Maximo Health, Safety and Environment Manager to help Herman Miller create 'A Better World'
Go beyond compliance with occupational safety and health regulations and other requirements	<ul style="list-style-type: none"> • Management of Change • Action Tracking • Regulatory Compliance
Pursue prevention of injury and ill health and elimination of any risk	<ul style="list-style-type: none"> • Defects • Investigations • Failure Reporting • Risk Assessment • Risk Matrix • Condition for Work
Promote employee well-being	<ul style="list-style-type: none"> • Improvements • Personnel Certification Tracking
Demonstrate and implement best health and safety practices	<ul style="list-style-type: none"> • Incidents • Improvements • Solutions • Operators Log • Operating Policy / Procedures
Promote health and safety knowledge and awareness	<ul style="list-style-type: none"> • After Action Reviews • Benefits & Losses



“Building a better world is not so much a goal as an everyday fact of life.

When we think about building a better world around you, we organize our work into four areas:

- *Community Service*
- *Inclusiveness and diversity*
- *Health & well-being*
- *Environmental advocacy*

Brian Walker
Chief Executive Officer
Herman Miller



A Solution Fit for Maximo

As stated in Preferred Sands' corporate responsibility initiatives	Capabilities in Maximo Health, Safety and Environment Manager
<p>“Keeping our equipment and procedures up-to-date on all safety requirements and for mandating safe work practices in every corner of our plants”</p>	<ul style="list-style-type: none"> • Incidents • Improvements • Solutions • Action Tracking • Management of Change • Investigations • Defects
<p>“Playing a central role (Safety Committee) in ongoing safety training and serving as the ‘eyes and ears’ of the plant”</p>	<ul style="list-style-type: none"> • Condition for Work • Personnel Certification Tracking
<p>“Performing rigorous safety audits throughout the year”</p>	<ul style="list-style-type: none"> • Action Tracking • Regulatory Compliance
<p>“Ensuring that our plants run at their highest capacity everyday”</p>	<ul style="list-style-type: none"> • Operators Log • Operating Policy • Failure Reporting • Risk Assessment • Risk Matrix • Benefits & Losses



**“Safety is not merely a concern
- it is a mindset”**



“Our first priority is to send our employees home the same way they arrived at work!”



A Solution Fit for Maximo

As stated in Southern Power's Target Zero program	Capabilities in Maximo Health, Safety and Environment Manager
Conduct daily safety briefings	<ul style="list-style-type: none"> • After Action Reviews • Operators Log • Operating Policy/Procedures
Identify hazards, determine how to avoid them	<ul style="list-style-type: none"> • Defects • Investigations • Failure Reporting • Risk Assessment • Risk Matrix • Condition for Work
Start corrective actions if unsafe conditions are noticed	<ul style="list-style-type: none"> • Management of Change • Action Tracking
Report safety concerns – rewarded and protected	<ul style="list-style-type: none"> • Regulatory Compliance • Benefits & Losses • Incidents • Improvements • Personnel Certification Tracking • Solutions



Southern Power



Target Zero

“There is no occupation worth risking the safety of an individual employee -
Every day, every job, safely”



Customer Case Studies



- Multiple industries
- Global endorsement
- Wide range of use cases



Abu Dhabi Water & Electricity Authority

Implementing government policy regarding water and electricity sector in the Emirate, including privatization of the water and electricity sector



ADWEA is an water and electricity provider in Abu Dhabi, UAE

Business Challenges	IBM Solution	Business Benefits
<ul style="list-style-type: none"> ▪ Lack of organizational efficiency and inability to prepare / respond to future challenges ▪ Ability to meet a 9% growth rate for energy consumption 	<ul style="list-style-type: none"> ▪ IBM Maximo <ul style="list-style-type: none"> ▪ Incident Management ▪ Management of Change ▪ Action Tracking 	<ul style="list-style-type: none"> ▪ Built end-to-end capacity, and optimized asset effectiveness to meet demand with a strong focus on financial, social and environmental sustainability ▪ Streamlined operating processes that enabled the efficient delivery of high quality water and power while complying with Government HSE Management System

“A Key Element of Smart Initiatives”



Drax Power

Largest, cleanest and most efficient coal fired power station in the UK



Business Challenges

- Replacement of legacy systems, which were well out-of-date
- Current work/asset/risk assessment and operations log functionality were at their end-of-life
- Risk assessment was not well integrated with work management

IBM Solution

- IBM Maximo Health, Safety and Environment Manager
- IBM Maximo

Business Benefits

- Single view of operational risk
- Improved integration between operational and maintenance systems and personnel
- Integrated risk assessment to work and asset management

“A Critical Operations & Risk Management Application”



ENMAX

Providing electricity to regulated rate option customers in Calgary, Alberta



ENMAX is an energy generation, distribution, supply & services company in Calgary, Alberta

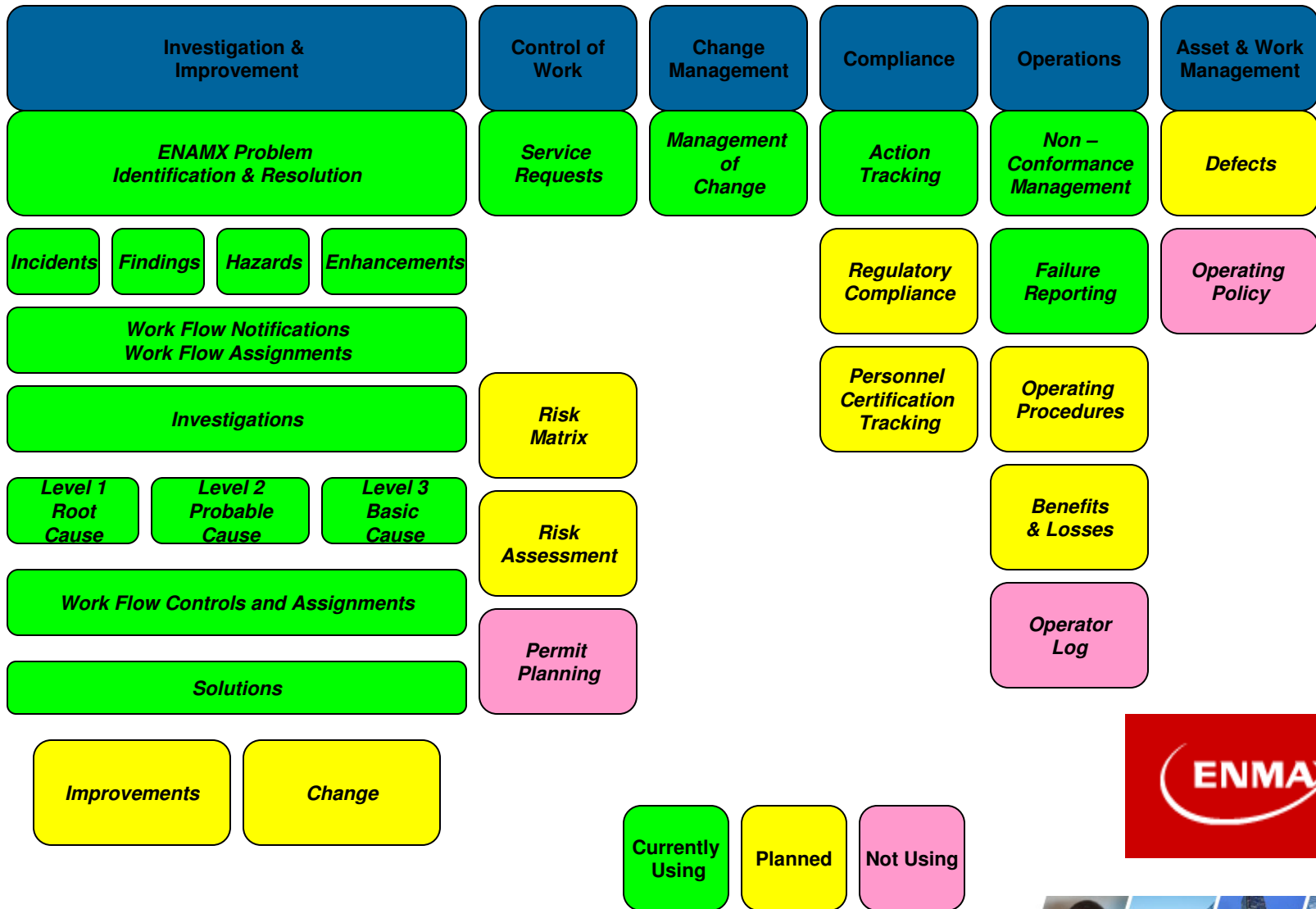


Business Challenges	IBM Solution	Business Benefits
<ul style="list-style-type: none"> ▪ Multiple disparate reporting systems ▪ Limited ability to trend common causes across systems ▪ Unable to track total corrective action workload ▪ Limited reporting capability 	<ul style="list-style-type: none"> ▪ IBM Maximo 	<ul style="list-style-type: none"> ▪ Single point of entry reporting and corrective action system ▪ Eliminates confusion as to which system to use for reporting ▪ Enables common cause trending ▪ Simplifies procedures and training ▪ Provides visibility into total corrective action workload by person

“A Key Element of Problem Identification and Resolution”



Matrix of Applications for HSE at ENMAX



Mosaic

World's leading producer of potash and phosphate



Mosaic is helping the world grow the food it wants



Business Challenges	IBM Solution	Business Benefits
<ul style="list-style-type: none"> ▪ Common Management of Change policy, procedure, program for the potash and phosphate business units – to support ISO 14000 certification ▪ A common tool that enables and enforces Management of Change processes and procedures that are aligned with Mosaic's standards 	<ul style="list-style-type: none"> ▪ IBM Maximo 	<ul style="list-style-type: none"> ▪ Achieved ISO 14000 certification ▪ Installed a common tool to drive best practices and process standardization ▪ Expanded Management of Change reach from equipment and facilities to supply chain and material ▪ Established alignment with future Mosaic initiatives like reliability

“A Key Solution for ISO 14000 certification”



National Cooperative Refinery Association

Taking crude oil and making gasoline and diesel fuel



NCRA is an 85,000 barrels/day refinery in McPherson, KS



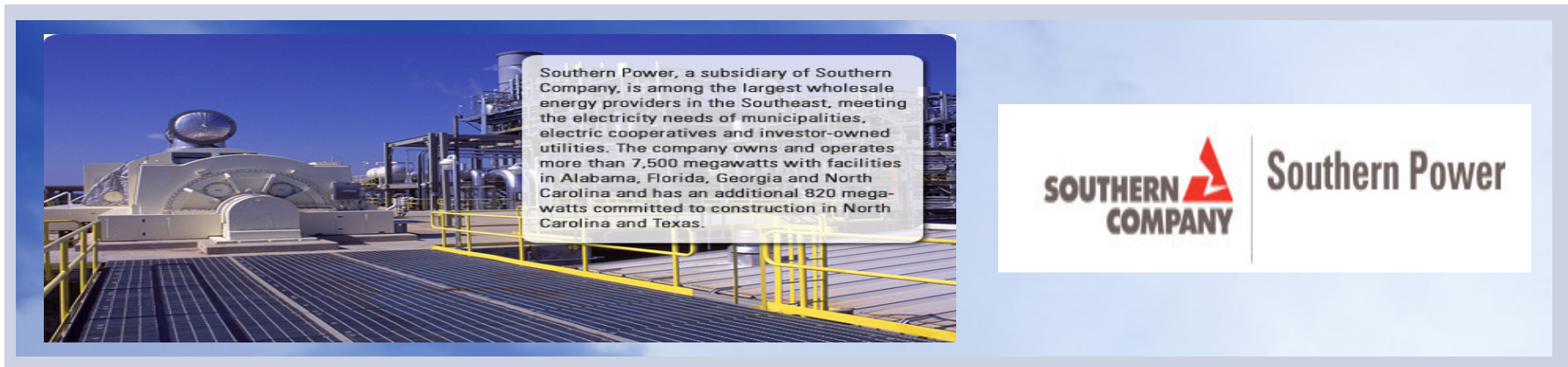
Business Challenges	IBM Solution	Business Benefits
<ul style="list-style-type: none"> ▪ Informal and unstructured Management of Change process ▪ Informal and undocumented training and communication processes ▪ Inability to easily provide traceability in compliance and reporting processes 	<ul style="list-style-type: none"> ▪ IBM Maximo 	<ul style="list-style-type: none"> ▪ Electronic system allows for work flow ▪ Better review by multiple departments ▪ Easy location of Management of Change in the process ▪ E-mail notification of assigned action items ▪ Paperless process

“A Key Element of Safety and Compliance”



Southern Power

Among the largest wholesale energy producers in the SE United States



Business Challenges	IBM Solution	Business Benefits
<ul style="list-style-type: none"> ▪ Limited ability to trend common causes across plants ▪ Lack of 'simplified' Operator's Log sheet ▪ Need to replace 'Paper' Log ▪ Need for a 'Mobile' Operator capability 	<ul style="list-style-type: none"> ▪ Maximo Health, Safety and Environment Manager 	<ul style="list-style-type: none"> ▪ Enables common & standardized Operator's Log across generation fleet ▪ Provides common application for Incident Management ▪ Provides expanded use of corporate-wide Enterprise Asset Management solution

“A Critical Safety & Operational Application”



Maximo Competitive Differentiators

- Health, Safety and Environment and Work & Asset Management all utilizing the same physical asset structures
 - All other HSE vendors/applications use asset structures that are different & unique
- Ability to integrate safety, maintenance and operational related processes
 - Most, in not all HSE incidents originate from managing maintenance work
- Breadth of offering from operators log through management of change to risk assessment as well as the traditional incident management and investigation



“ The fact is safety performance and good business performance go hand in hand. I truly believe we can’t have one without the other”

**Sir Frank Chapman
BG Group**

“ The Management of Change application has been rolled out at all SunCoke manufacturing locations and home office. It has been very well received by the users; in fact, I do not believe I have had so many positive comments from the field on a new software application.”

Joe Fluder
SunCoke Energy
August 8, 2012



SunCoke Energy

Business without **LIMITS 2012**



Conclusion

- *“The creation of a strong safety office has often been recommended to organizations facing critical safety problems”*
- *“It seems therefore, that separating safety and production is not the best strategy, and that safety must be an integral part of the production process. (In the same way, for example, the manufacturing industry has discovered that inspection alone does not provide quality, but that quality must be the responsibility of everyone in the production line.)”*

Source:

Learning from the Piper Alpha Accident: A Postmortem Analysis of Technical and Organizational Factors
October 22, 1992 – Society of Risk Analysis
M. Elisabeth Pate-Cornell – Department of Industrial Engineering and Engineering Management, Stanford University, CA 94305



Piper Alpha – North Sea Production Platform

Explosion & fire – 6 July 1988
168 killed, 61 survivors

Findings – inadequate maintenance and safety procedures

IBM Maximo Health, Safety and Environment Manager provides key extensions to Maximo Asset Management to provide critical applications for incident management, investigations, management of change, non-conformance management, action tracking, risk assessment, and regulatory compliance and becomes the common thread between

production, safety and quality

Business without **LIMITS 2012**



Questions?



Thank You!



Acknowledgements, Disclaimers and Trademarks

© Copyright IBM Corporation 2012. All rights reserved.

The information contained in this publication is provided for informational purposes only. While efforts were made to verify the completeness and accuracy of the information contained in this publication, it is provided AS IS without warranty of any kind, express or implied. In addition, this information is based on IBM's current product plans and strategy, which are subject to change by IBM without notice. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this publication or any other materials. Nothing contained in this publication is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this publication to IBM products, programs or services do not imply that they will be made available in all countries in which IBM operates. Product release dates and/or capabilities referenced in this presentation may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth, savings or other results. All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Information concerning non-IBM products and services was obtained from a supplier of those products and services. IBM has not tested these products or services and cannot confirm the accuracy of performance, compatibility, or any other claims related to non-IBM products and services. Questions on the capabilities of non-IBM products and services should be addressed to the supplier of those products and services.

All customer examples cited or described are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer and will vary depending on individual customer configurations and conditions. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

Prices are suggested U.S. list prices and are subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or Business Partner for the most current pricing in your geography.

IBM, the IBM logo, ibm.com, and other IBM products and services are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

