



IBM Maximo Health Safety and Environment Overview

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Maximo Strategy & Product Management

Pulse2012

Meet the Experts. Optimise your infrastructure.

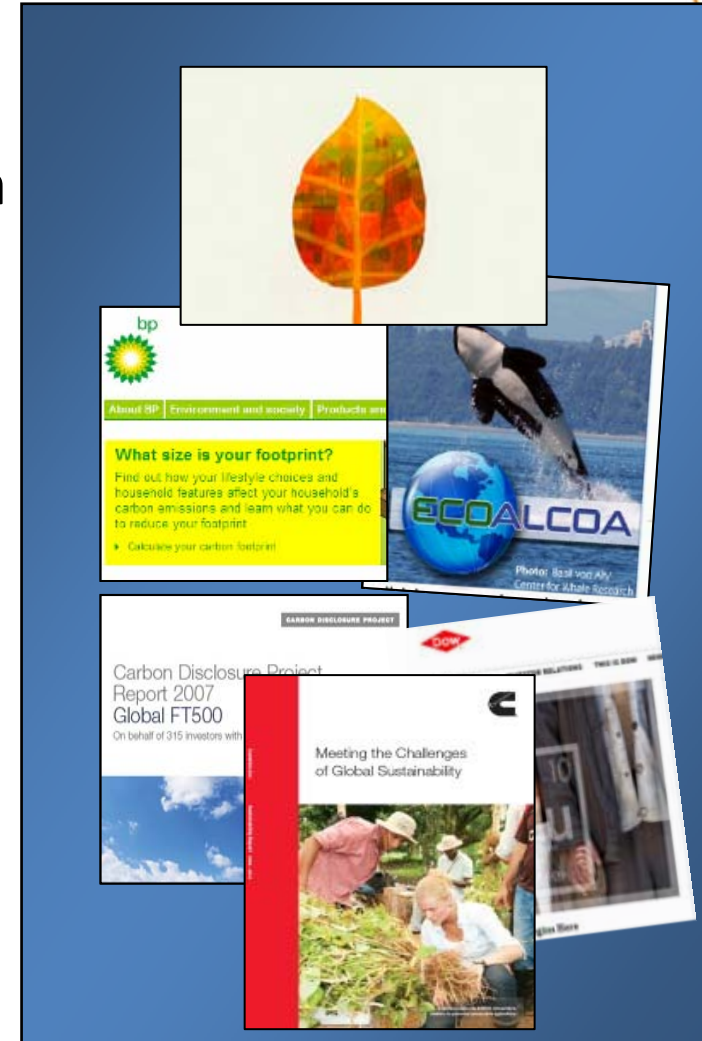
May 31 - June 1

Sheraton on the Park Hotel, Sydney



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



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”



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 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”

HS&E is critical – but not all about maintenance



Buncefield Incident - 2005

Explosion and fire at Hertfordshire Oil Terminal

Measured 2.4 on the Richter scale

Heard in Belgium

2 assets and maintenance/inspection failures:

- Limit switch

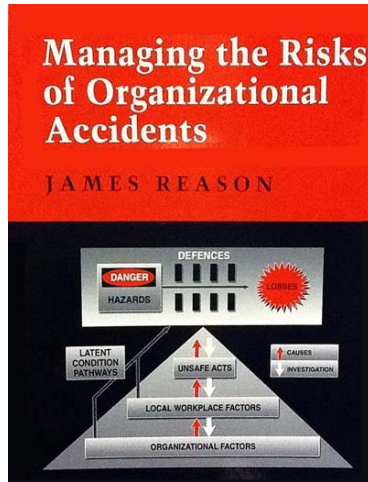
- Alarm Failure

Health and Safety investigation and report

Company liabilities of £700million



A Solution Fit for Maximo



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

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.. **

Introducing Maximo Health, Safety and Environment Manager (Sept 2011; part of Oil & Gas solution 7.1.x)

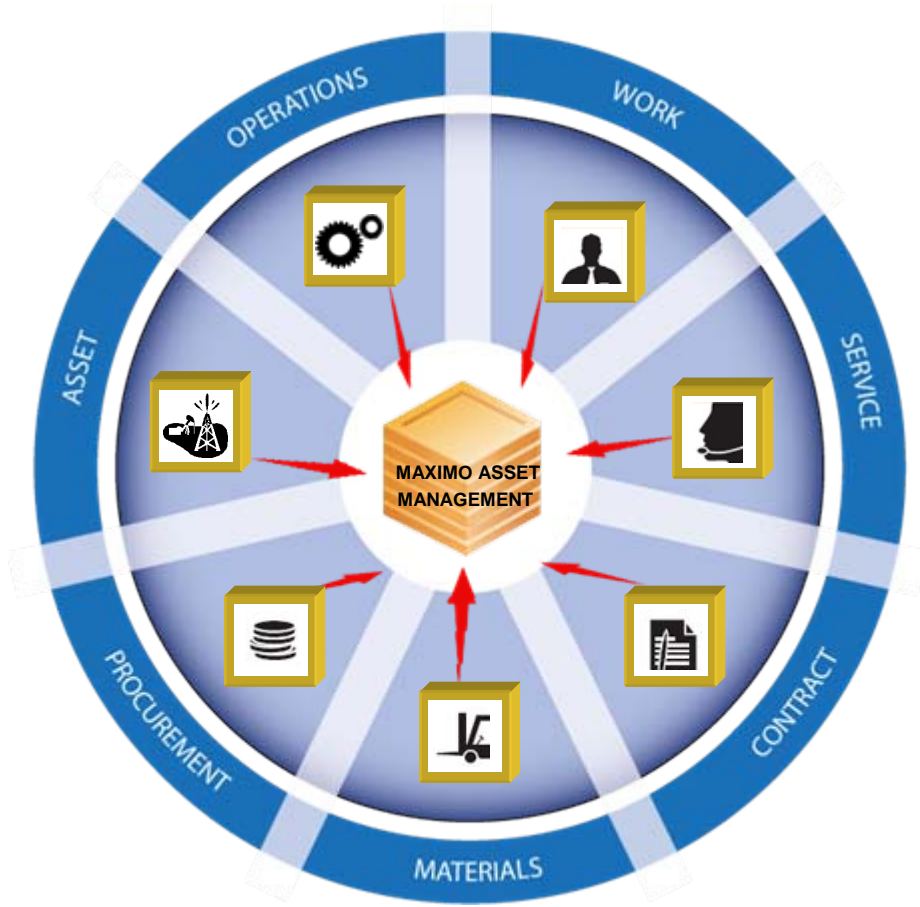
The primary objective of Health, Safety & Environment initiatives is to: reduce overall risk, comply with appropriate regulations, and create a safe yet efficient operating environment

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.



IBM Maximo HS&E Manager forms part of the Maximo enterprise solution – allowing it to be deployed stand alone or linked to the wider Maximo Work and Asset Management processes.

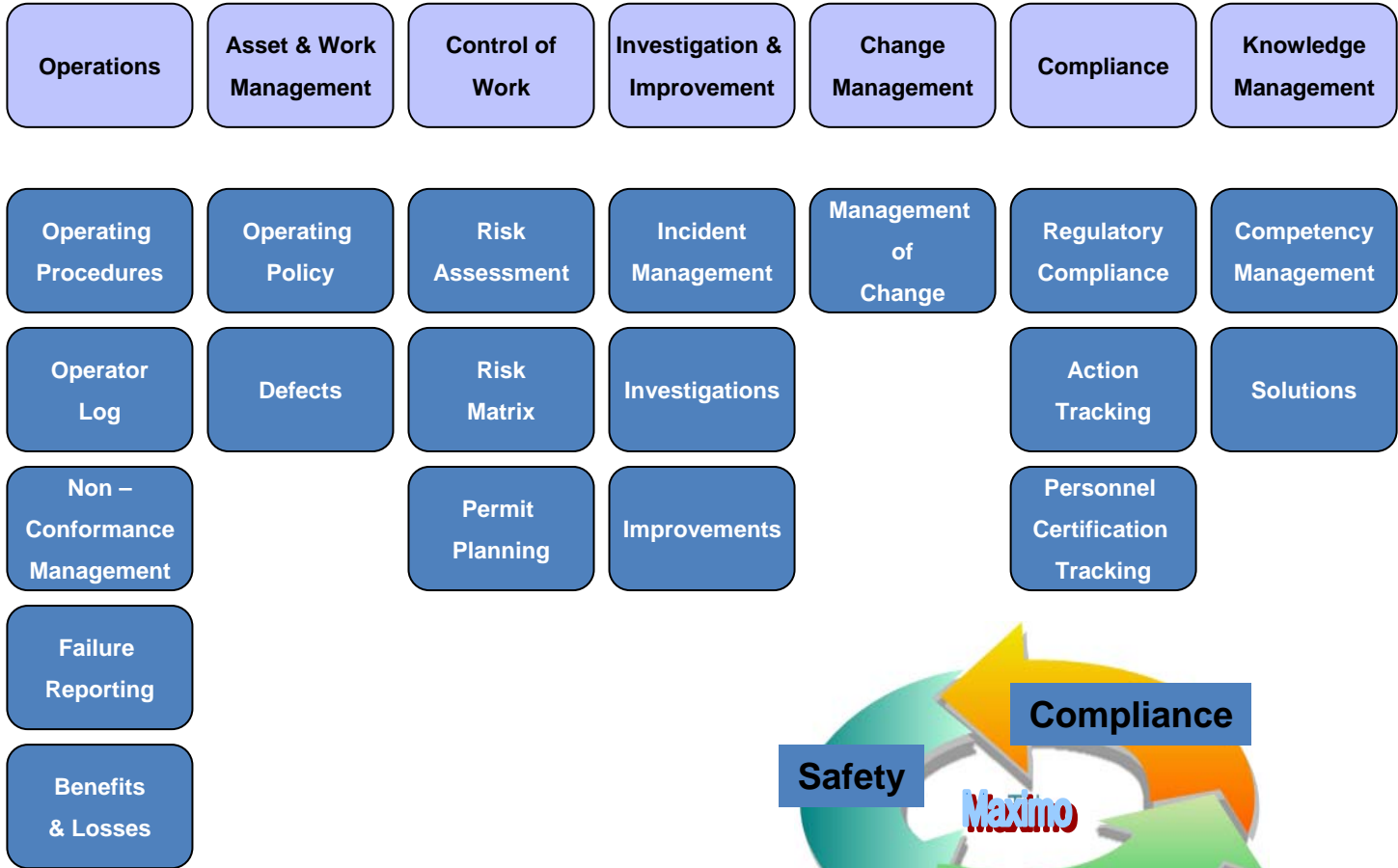


Maximo Health, Safety and Environment Manager

Critical Business

Processes

Health, Safety & Environment Applications



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
<p>“A Key Element of Safety and Compliance”</p>		



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
		<ul style="list-style-type: none"> ▪ 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”

Mosaic

World's leading producer of potash and phosphate



Products & Services
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”

ENMAX

Problem Identification & Resolution



ENMAX Corporation (ENMAX)

- Vertically integrated utility: electricity, natural gas, renewable energy
 - Providing Albertans with electricity for over 100 years
 - More than 697,000 customer sites throughout Alberta
 - Wholly owned subsidiary of The City of Calgary
- Core operations include: electricity generation, transmission and distribution and sale of electricity, natural gas and renewable energy products to residential and commercial customers in Alberta
 - Generation Assets: Wind, Natural Gas, District Energy

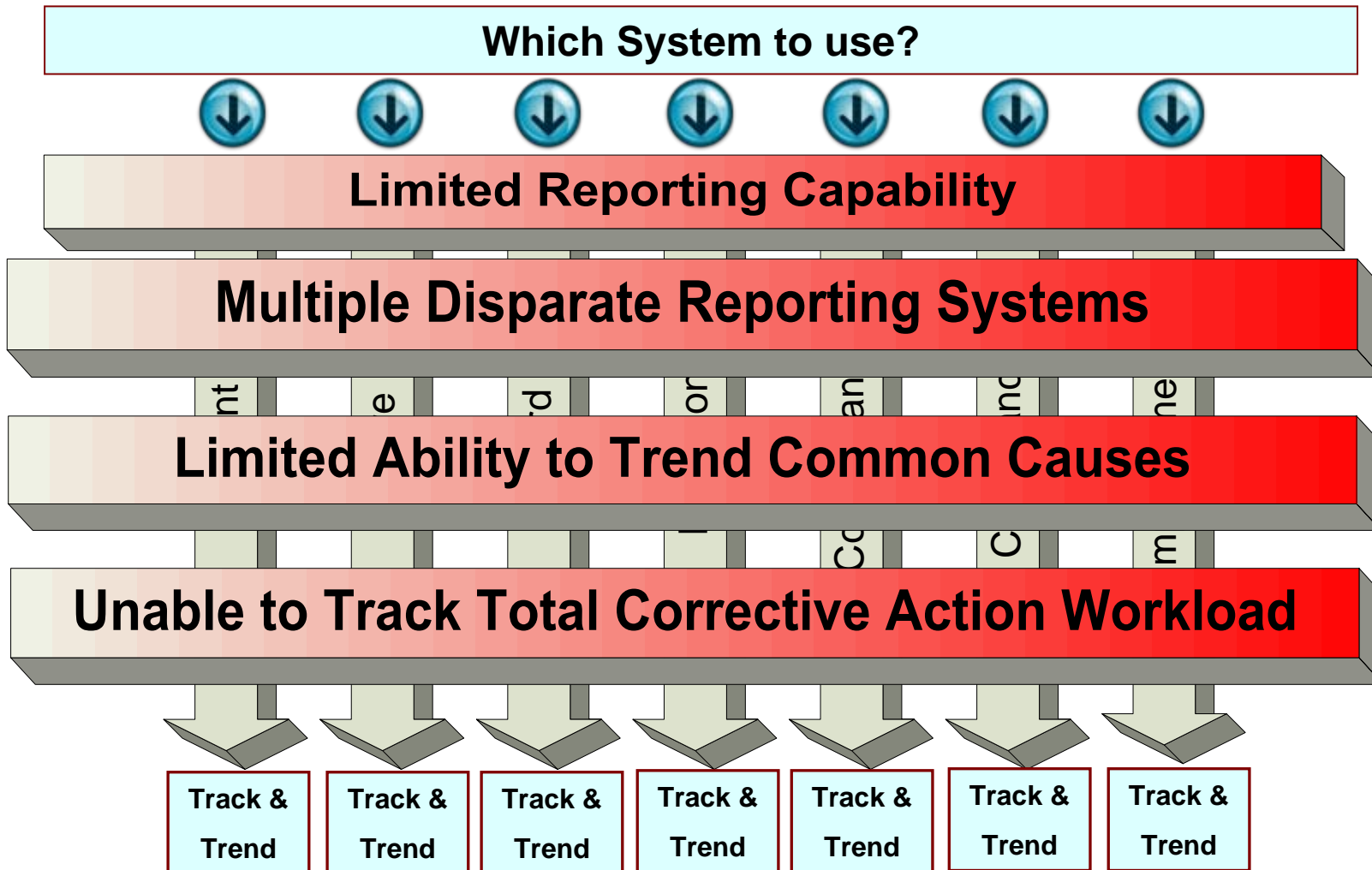


Problem Identification and Resolution Threshold

- PI&R reports should be written to document an actual or suspected problem or an actual or suspected hardware, process, or program deficiency or non-conformance. PI&Rs may also be written for conditions adverse to business or with negative economic impact.
- The following is a list of examples for which a PI&R is appropriate. The list is not all inclusive and should be interpreted conservatively:
 - Materials
 - Workmanship
 - Hardware
 - Documentation
 - Procedure Compliance
 - Personal Safety
 - Plant Reliability
 - Self Assessment and Benchmarking
 - Human Performance
 - Regulatory Impact



Business Challenge – Multiple Systems



Single Point of Entry System

Single Point of Entry – Eliminates Confusion

Hazards Priority Recommend Reporting

Control Management of Incidents & Investigations

Common Cause Trending

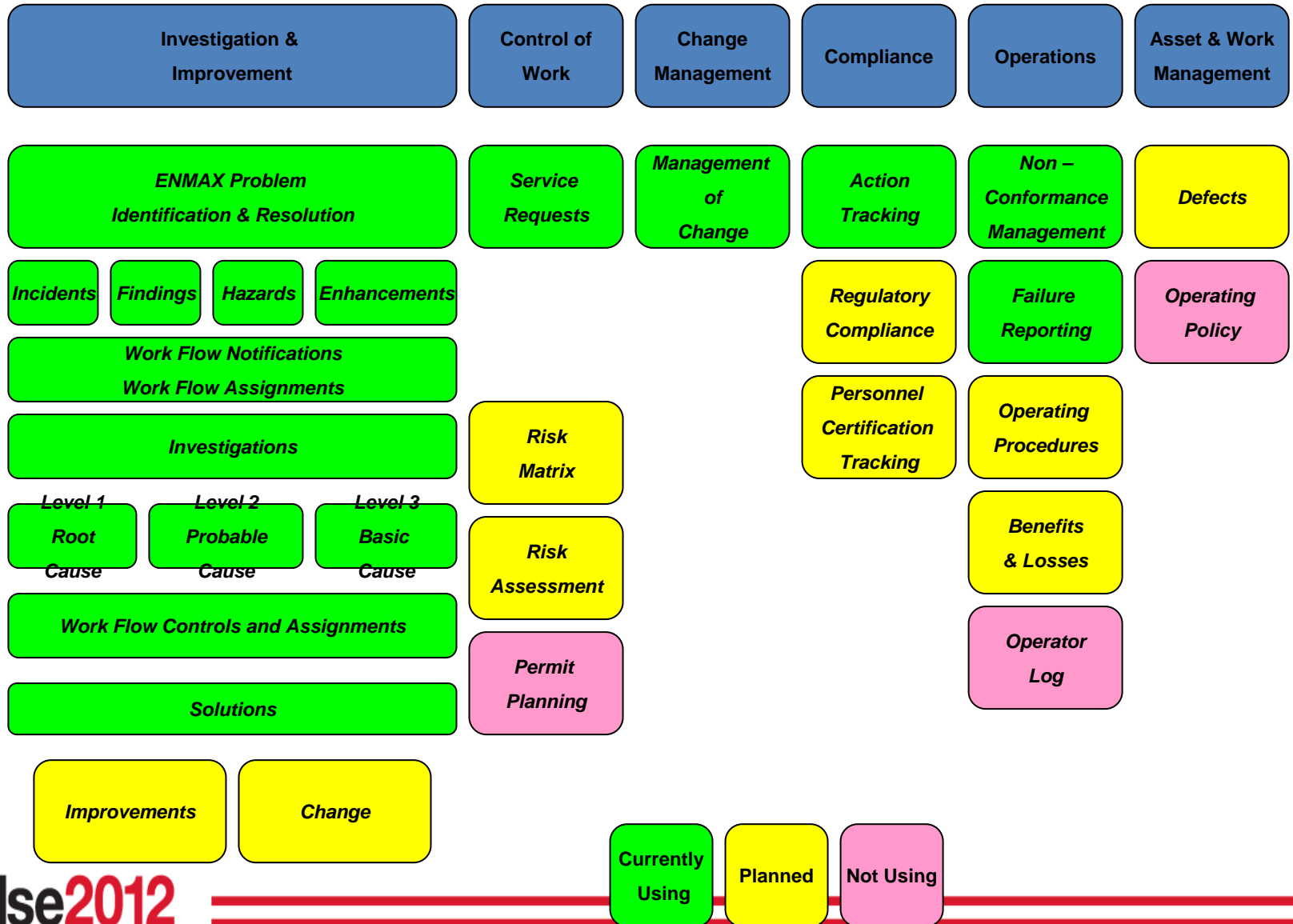
Visibility - Correction Action Workload by Person

Consolidated Reporting Capability

Single Consolidated System – MAXIMO

Identification - Classification – Resolution - Analysis

Matrix of Applications for PI&R



Problem Identification & Resolution

PI&R Entry

The screenshot shows the Enmax Problem Identification & Resolution web application. At the top, there is a search bar with a 'Find:' label and a 'Select Action' dropdown menu. Below this are several tabs: 'List', 'Problem', 'Related Records', 'Solution Details', 'Log', and 'Specifications'. The 'Problem' tab is active, showing a problem ID of '1003252' and an 'Owner Group' field. The 'Initiator Information' section includes fields for 'Reported By', 'Name', 'Phone', and 'E-mail'. Below this is the 'ENMAX Incident Details' section, which is currently empty.

Problem / Request
Report Finding
Incident
Hazards

Safety
Environment
Operations
Reliability Standards
Quality Assurance
Wholesale Energy
Supply Chain
Engineering
Construction
Quality
Generation Services

The 'Initiator Details' section contains several fields: 'Event or Action' (with a search icon), 'Summary' (with a list icon), 'Details' (with a list icon), 'Problem Type', 'Site', 'Location', 'Asset', 'Public/Offsite Impact?' (checkbox), 'Estimated Cost' (with a search icon), 'Reported Priority' (with a search icon), and 'External Reporting' (with a search icon).

Dynamic Value
List contingent
upon the Event
or Action
selected

- 1 - High
- 2 - Medium
- 3 - Low
- 4 - Trending

Email notifications are
sent based upon the
priority of the incident
reported

The 'Dates' section shows 'Reported Date' as '1/9/12 8:44' and an empty 'Event Date' field. Below this is the 'Related to Issue ID' field and the 'Issue Class' field, both with search icons.

Investigations Application

The screenshot displays the 'Enmax Investigations' application interface. At the top, there is a navigation bar with 'List', 'Investigation', 'Analysis', 'Actions', 'Related Records', 'Solution Details', 'Log', and 'Failure Reporting' tabs. Below this, there are search and filter fields, including 'Investigation *', 'Owner', and 'Owner Group'. A 'User Information' section contains fields for 'Reported By', 'Investigation Lead', and 'Name'. A second navigation bar includes 'List', 'Actions', 'Related Records', 'Solution Details', 'Log', 'Failure Reporting', 'Specifications', and 'After Action Review'. Below this, there are fields for 'Investigation *', 'Level', 'Site', and 'Status' (set to 'NEW'). A set of tabs includes 'Level 1 RCA', 'Level 2 Cause Analysis', and 'Level 3 Basic Cause'. The 'RCFA Details' section contains several form fields: 'Root Cause Identified?' (checkbox), 'Mandatory?' (checkbox), 'RCFA Lead' (text), 'Target Completion Date' (calendar), 'Required By' (text), 'Name' (text), 'Actual Completion Date' (calendar), 'Analysis Type' (text), 'Approved By' (text), 'Name' (text), 'Approved?' (checkbox), and 'Approval Date' (calendar). The 'RCFA Results' section features a table with columns: 'Cause', 'Description', 'Cause Type', 'Cause Priority', 'Cause Owner', 'Action Required', and 'Improvement Required'. Below the table, it states 'No cause to display'.

Investigation Level

Safety
Environment
Operations
Reliability Standards
Quality Assurance
Wholesale Energy
Supply Chain
Engineering
Construction
Quality
Generation Services

PI&R Investigation Level Determination

Level 1	Level 2	Level 3	Level 4
Recurrence is Unacceptable	Rare Occurrence may be Acceptable	Occasional Occurrence is Acceptable	Occurrences with Low Consequence used for Trending
Root Cause Analysis is required	Probable Causal Analysis, corrective, and preventive actions required	Basic Causal Analysis, corrective actions may be required	PI&R documents actions taken and no further actions required

ENMAX Incident Investigation Report



Incident Investigation Report

PI&R Reference Number: 1002012

Site: GG-CG, Calgary Energy Centre

Type: Safety Class 2

Incident Date: Jul 16, 2011

Statement Summary

TEST

Detailed Description

fas

Short Term Corrective Actions

Investigation Reference Number:

Investigation Lead:

Status:

Investigation Level: Level 4

This is identical to a Category III issue with one exceptions: The required actions to correct or r

LEVEL 1 Root Cause Analysis

Target Completion:

Actual Completion:

RCFA Lead:

Approved: N

LEVEL 2 Cause Analysis

LEVEL 3 Basic Cause

Job Factors

1.0 Standards/Procedures/Practices

- _ 1-1 Not Developed
- _ 1-2 Inadequate Standard/procedure/practice
- _ 1-3 Standard/procedure/practice not followed
- _ 1-4 Inadequate communication of procedure
- _ 1-5 Inadequate assessment of risk
- _ 1-6 Not implemented

2.0 Tools and Equipment

- _ 2-1 Availability
- _ 2-2 Defective
- _ 2-3 Inadequate Maintenance
- _ 2-4 Inspection
- _ 2-5 Tool used incorrectly
- _ 2-6 Inadequate assessment of tools for task

3.0 Design

- _ 3-1 Inadequate hazard assessment
- _ 3-2 Inadequate design specification
- _ 3-3 Design process not followed
- _ 3-4 Inadequate assessment of ergonomic impact
- _ 3-5 Inadequate assessment of operational capabilities
- _ 3-6 Inadequate programming

Systemic Management Factors

4.0 Planning

- _ 4-1 Inadequate work planning
- _ 4-2 Inadequate management of change
- _ 4-3 Conflicting planning / programming
- _ 4-4 Inadequate assessment of needs and risks
- _ 4-5 Inadequate documentation

5.0 Communication

- _ 5-1 Unclear roles, responsibilities and accountabilities
- _ 5-2 Lack of communication
- _ 5-3 Inadequate direction / information
- _ 5-4 Misunderstood communications

6.0 Knowledge / Skill

- _ 6-1 Lack of training/orientation
- _ 6-2 Training needs not identified
- _ 6-3 Lack of coaching
- _ 6-4 Failure to recognize hazard
- _ 6-5 Inadequate assessment of needs and risks

Personal Factors

7.0 Capabilities

- _ 7-1 Physical Capabilities (height, strength, weight, etc.)
- _ 7-2 Sensory Deficiencies (sight, sound, sense of smell, balance)
- _ 7-3 Substance sensitivities / allergies

8.0 Judgement

- _ 8-1 Failure to address recognized hazard
- _ 8-2 Conflicting demands / priorities
- _ 8-3 Emotional stress
- _ 8-4 Fatigue
- _ 8-5 Criminal intent
- _ 8-6 Extreme judgment demands
- _ 8-7 Substance abuse

9.0 Natural Factors

- _ 9-1 Fires
- _ 9-2 Flood
- _ 9-3 Earthquake
- _ 9-4 Extreme Weather
- _ 9-5 Other

Incident Management

Create
Incident

As required create
Action Tracking,
Lessons Learned,
Improvements or MOC
records

Incidents application

Using a predefined Incident Template to quickly complete the relevant fields

Incident: 1099 Owner Group: Status: INPROG Attachments

User Information

Reported By: WILSON	Affected Person: WILLIAMS
Name: Mike Wilson	Name: Eduardo Williams
Phone: (617) 555-9C	Phone: 781-555-09E
E-mail: Mike.Wilson@maximodemo.com	E-mail: Eduardo.Williams@maximodemo.com

Incident Details

Summary: HSE and Risk Assessment,HSE - Incident

This incident was caused by a loose manhole cover. He climbed out of his vehicle and did not see the manhole that happened to be right next to the door of his lorry. The manhole cover was on but it seems that it was broken and just placed back on top of the manhole.

He sustained lower leg injuries and a suspected sprained wrist.

This will need an investigation.

See Log Tab for further information

Details:

Classification:	5 \ 501 \ 50101
Class Description:	HSE - Person Incident
Service Group:	FACILITY
Service:	HSE
From Review Required?	<input type="checkbox"/>
Incident Type:	HIGH POTE
External Incident Reference:	
Site:	BEDFORD
High Context?	<input type="checkbox"/>
Investigation Required?	<input type="checkbox"/>
Reportable?	<input type="checkbox"/>
SLA Applied?	<input type="checkbox"/>

Incidents application

The screenshot shows the 'Incidents (Pwr)' application interface. At the top, there's a navigation bar with 'Go To', 'Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below that, a search bar and 'Select Action' dropdown are visible. The main content area shows incident details for ID 1099, classified as 'HSE and Risk Assessment, HSE - In', with a status of 'INPROG'. A yellow callout bubble points to the 'Classification' field, stating: 'Incident classification enables focused questions related to the type of incident'. Below the details is a table of specifications for this incident classification. A blue arrow points from a yellow box at the bottom to the table, with the text: 'Attributes/questions associated to the specific incident classification'.

Attribute	Description	Data Type	Alphanumeric Value	Numeric Value	Unit of Measure	Table Value
AREA	Demographic area	ALN	Lorry Park			
CONDITIO	Conditions of area wet or dry ?	ALN	Dry			
WARNING	Were there any warning signs ?	ALN	No			
APPROV	Was person authorised to be in that area ?	ALN	Yes			
ANYONE	Were there any witnesses ?	ALN	No			
SECURITY	Have Security been informed ?	ALN	Yes			
AREASAFE	Has the area been made safe ?	ALN	No			

Attributes/questions associated to the specific incident classification

Incidents application – Log tab

The screenshot shows the 'Incidents (Pwr)' application interface. The 'Log' tab is selected in the navigation menu. The main content area displays a table of work logs for incident 1099, sorted by date in descending order. The most recent log entry is highlighted.

Record	Class	Created By	Date	Type	Summary	Viewable
1099	INCIDENT	WILSON	21/09/11 16:02	CLIENTNOT	Will raise W/O to fix manhole cover	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 16:01	CLIENTNOT	Management have arranged for another dr	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 15:55	CLIENTNOT	Broken Wrist	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:41	CLIENTNOT	Will secure vehicle and load	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:41	CLIENTNOT	Ambulance called	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:35	CLIENTNOT	Edwardo needs medical attention	<input type="checkbox"/>

Details for Record 1099:

- Class: INCIDENT
- Created By: WILSON
- Date: 21/09/11 16:01
- Type: CLIENTNOT
- Viewable?

Summary: Management have arranged for another dr

Details: Another driver will be coming to pick up the truck.

A running log of the incident is recorded within the Log TAB, listed in time order, most recent being first.

Incidents application

An Investigation is created and will be related to the original incident

The screenshot shows the Maximo web application interface. At the top, a blue banner displays "BMXAO0089E - Investigation 1175 created." Below this, the "Incident" tab is active, showing details for incident 1099. The "User Information" section includes fields for "Reported By" (WILSON), "Name" (Mike Wilson), "Phone" ((617) 555-9C), and "E-mail" (Mike.Wilson@maximodemo.com). The "Affected Person" section includes "Name" (Eduardo Williams), "Phone" (781-555-09E), and "E-mail" (Eduardo.Williams@maximodemo.com). A "Select Action" menu is open, listing various actions such as "Change Status", "View History", "Create", "Apply Incident Template", "Select Owner", "Take Ownership", "Modify/Delete Work Log", "Show Similar Tickets", "Apply SLA", "View SLAs", "Select/Deselect SLAs", "Attachment Library/Folders", "Duplicate Incident", "Delete Incident", "Add to Bookmarks", "Workflow", and "Run Reports". The "Investigation" option is highlighted in the menu. A yellow callout box points to the "Investigation" option with the text "Create Investigation Action". The "Incident Details" section shows a summary: "HSE and Risk Assessment, HSE - Incident" and a description: "This incident was caused by a loose manhole door of his lorry. The manhole cover was on b...". Below the summary, it states "He sustained lower leg injuries and a suspected sprained wrist." and "This will need an investigation." A note at the bottom of the summary says "See Log Tab for further information". The right side of the interface shows classification and service details: "Classification: 5 \ 501 \ 50101", "Class Description: HSE - Person Incident", "Service Group: FACILITY", "Service: HSE", "Incident Type: HIGH POTE", "Site: BEDFORD", and checkboxes for "High Context?", "Investigation Required?", "Reportable?", and "SLA Applied?".

Details are inherited from the Incident record to eliminate re-entering of data and an investigation process can proceed

The screenshot displays the IBM Maximo Investigations application interface. At the top, a navigation bar includes tabs for 'List', 'Investigation', 'Activities', 'Related Records', 'Solution Details', 'Log', 'Failure Reporting', 'Specifications', 'After Action Review', and 'Analysis'. The main content area is divided into several sections:

- Investigation Summary:** Shows 'Investigation: 1175', 'Owner: WINSTON', 'Owner Group: [empty]', and 'Status: INPROG'. An 'Attachments' icon is visible on the right.
- User Information:** Contains fields for 'Reported By: WILSON' (Name: Mike Wilson, Phone: (617) 555-9C, E-mail: Mike.Wilson@maximodemo.com) and 'Investigation Lead: WINSTON' (Name: Todd Winston).
- Investigation Details:** A large section with two columns of fields:
 - Summary:** HSE and Risk Assessment, HSE - Incident
 - Details:** This incident was caused by a loose manhole cover. He climbed out of his vehicle and did not see the manhole that happened to be right next to the door of his lorry. The manhole cover was on but it seems that it was broken and just placed back on top of the manhole. He sustained lower leg injuries and a suspected sprained wrist. This will need an investigation. I on Tab for further information
 - Classification:** 5 \ 501 \ 50101
 - Class Description:** HSE - Person Incident
 - Incident Type:** HIGH POTE
 - Site:** BEDFORD
 - External Incident Reference:** [empty]
 - Knowledge Area:** SAFETY
 - Strategic?**
 - SLA Applied?**
 - Create WO Options:** MULTI
 - Asset:** [empty]
 - Location:** MH101 (Manhole Unit #101)
 - Configuration Item:** [empty]
 - Asset Site:** BEDFORD
 - Risk Assessment:** [empty]
 - Risk Ranking:** [empty]
 - Internal Priority:** 1
 - Incident Impact:** [empty]

Investigations application – Log tab

The screenshot shows the 'Investigations (Pwr)' application in a Mozilla Firefox browser. The 'Log' tab is highlighted with a red circle. The interface includes search fields for 'Investigation' (1175), 'Site' (BEDFORD), and 'Status' (INPROG). Below the search fields are tabs for 'Work Log' and 'Communication Log'. The 'Work Logs' section displays a table with 8 records. The 'Details' section shows the selected record (1175) with fields for Class, Created By, Date, Type, and Viewable. A blue arrow points from the 'Viewable?' checkbox in the details section to the 'Log' tab.

Record	Class	Created By	Date	Type	Summary	Viewable
1175	INVESTIGA	WILSON	27/09/11 16:55	CLIENTNOT	RCFA - will come from the investigation	<input type="checkbox"/>
1175	INVESTIGA	WILSON	27/09/11 16:55	CLIENTNOT	Investigation has been started	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 16:02	CLIENTNOT	Will raise WO to fix manhole cover	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 16:01	CLIENTNOT	Management have arranged for another dt	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 15:55	CLIENTNOT	Broken Wrist	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:41	CLIENTNOT	Will secure vehicle and load	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:41	CLIENTNOT	Ambulance called	<input type="checkbox"/>
1099	INCIDENT	WILSON	21/09/11 12:35	CLIENTNOT	Eduardo needs medical attention	<input type="checkbox"/>

Additional log entries relevant to the Investigation are entered

Investigations Application – After Action Review tab

An After Action Review can be completed as part of the resolution and follow up process

The screenshot displays the 'Investigations (Pwr)' application interface in a Mozilla Firefox browser. The browser's address bar shows the URL: `http://192.168.47.129:9080/maximo/ui/maximo.jsp?event=render&targetid=plusginv&value=rerender&uisessionid=3`. The application's navigation menu includes tabs for 'List', 'Investigation', 'Activities', 'Related Records', 'Solution Details', 'Log', 'Failure Reporting', 'Specifications', 'After Action Review' (highlighted with a red circle), and 'Analysis'. The main content area shows details for Investigation 1175, titled 'HSE and Risk Assessment.HSE - Incident', at the 'BEDFORD' site, with a status of 'INPROG'. The 'User Information' section lists 'AAR Lead' and 'AAR Facilitator' as 'WINSTON', with the name 'Todd Winston'. The 'AAR Details' section contains text boxes for 'What should have happened?', 'What actually happened?', 'Why were there differences?', and 'Lessons Learned?'. The 'Dates' section shows 'AAR Date' and 'Initiating Date' as '27/09/11'. The 'References' section shows 'AAR Reference Number' as '87612HH'. The 'Attendees' section shows a list of attendees, including 'CARSON' (Tara Carson) with a status of 'ACTIVE'. The bottom of the page features a red banner with the text 'Pulse2012 Meet the experts. Optimise your infrastructure.'

Investigations Application – After Action Review tab

A MOC can be raised to ensure that the RCFA has been addressed and as part of the Follow up

The screenshot shows the 'After Action Review' tab in the Investigations Application. A dropdown menu is open, showing various actions. A red arrow points to the 'MOC Request' option. The main form displays investigation details for 'Investigation: 1175' at 'Site: BEDFORD'. The 'AAR Lead' is 'WINSTON' and the 'AAR Facilitator' is 'WINSTON'. The 'Name' is 'Todd Winston'. The 'Status' is 'INPROG'. The 'What should have happened?' field contains the text: 'The manhole cover when cracked or damaged...'. The 'What actually happened?' field contains the text: 'The crack was not put back in place at to see.'. The 'Why were there differences?' field contains the text: 'This has been damaged by a vehicle or a large object hitting the cover, it should have been reported, but the person who damaged the manhole cover may have thought they would get into trouble. This would not have been the case.'. The 'Dates' section shows 'AAR Date: 27/09/11' and 'Initiating Date: 27/09/11'. The 'References' section shows 'AAR Reference Number: 87612HH'. The 'Attendees' section shows a list of attendees, including 'CARSON' and 'Tara Carson'.

Investigations (Pwr) - Mozilla Firefox
http://192.168.47.129:9080/maximo/ui/maximo.jsp?event=render&targetid=plusginv&value=render&uisessionid=3

Investigation: 1175 HSE and Risk Assessment.H
Site: BEDFORD Status: INPROG

User Information
AAR Lead: WINSTON
Name: Todd Winston

AAR Details
What should have happened?: The manhole cover when cracked or damaged...
What actually happened?: The crack was not put back in place at to see.

Why were there differences?: This has been damaged by a vehicle or a large object hitting the cover, it should have been reported, but the person who damaged the manhole cover may have thought they would get into trouble. This would not have been the case.

Lessons Learned?

Dates
AAR Date: 27/09/11
Initiating Date: 27/09/11

References
AAR Reference Number: 87612HH

Attendees: Filter > 1 - 2 of 2
Attendee Name Person's Location Person's Site Status
CARSON Tara Carson ACTIVE

Summary of Business Benefits

- A reduction in the number of accidents and injuries
- An increase in the reporting of defects, problems, near-misses, etc.
- Much improved safety culture – there is ownership at all levels within the organization with the commitment and competence to improve
- Improved incident investigations, with prompt sharing of lessons learned to prevent recurrence
- Improved and standardized reporting of accidents
- Action plans become ‘live’ documents that successfully involve employees and are continuously updated
- Standards accreditation (i.e., ISO 14001, OHSAS 18001, etc.)
- Better stress management

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The customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

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.

Photographs shown may be engineering prototypes. Changes may be incorporated in production models.



Additional Slides

In 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



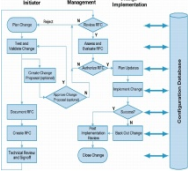




Maximo Health, Safety and Environment Manager

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



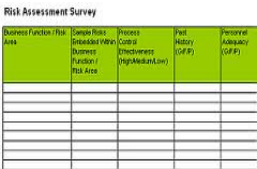
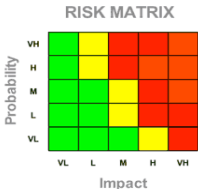

International Standard 18001 - OHSAS	Maximo Health, Safety and Environment Manager
Planning for hazard identification, risk assessment, and risk control	Risk Assessment, Risk Matrix, Hazards & Precautions
OHSAS management program	Non-conformance Management, Regulatory Compliance
Structure and responsibility	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

What is Maximo Health, Safety and Environment Manager?

Capability	Benefit
Incident Management 	Addresses the continuous need for customers to improve operational performance by creating, reviewing, and analyzing incidents
Investigations 	Allows customers to identify the root cause of problems arising from incidents on their plants that may be safety, environmental, or production related
Change Management 	Allows customers to support change requirements in a more robust way with multiple levels of reviews/approvals, authorization of change, pre and post start actions
Non-Conformance Management 	Provides non-conformance management capabilities designed to automate, manage, and streamline for identifying, evaluating, reviewing, and handling on non-conforming engineering specifications, materials, components, parts and processes.
Regulatory Compliance 	Identifies regulatory compliance against assets and locations and associates job plans and work orders to these regulations to ensure compliance – significantly reducing the costs associated with compliance


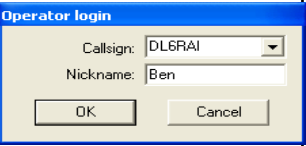





What is Maximo Health, Safety and Environment Manager?

Capability	Benefit
Operating Procedures 	Capabilities for documented, step-by-step operating procedures
Operating Policy 	Governance application for structuring your operating policy
Risk Assessment 	Iterative document that links all associated Health, Safety and Environment activities and organizational data. Allows customers to analyze the risks associated with work carried out through the Maximo products, identifying hazards and defining the impact ranking
Risk Matrix 	An application that models both probability and consequences of events supporting risk management processes
Improvements 	Manages continuous improvement programs like Six Sigma or similar methodologies






What is Maximo Health, Safety and Environment Manager?

Capability	Benefit
Competency Management 	Improves competency assurance through capabilities for adding, modifying, and updating competencies of the workforce
Operators Log 	Electronic log used by shift operators for recording and qualifying events which occur during an individuals shift watch
Personnel Certification Tracking 	Complete history of all personnel job roles, certifications, training and current qualifications
Action Tracking 	Allows customers to track statutory implications to ensure certain types of work and actions are completed by the agreed dates
Benefits & Losses 	Captures benefits/losses associated with improvements or costs associated with incidents, failures, survey/audit findings



What is Maximo Health, Safety and Environment Manager?

Capability	Benefit
Failure Reporting 	Reporting mechanism for capturing metrics to support consistent Failure Reporting and Corrective Action process (FRACAS)
Solutions 	Searchable learning repository associated with lessons learned, or with proven solutions having a safety, operational, maintenance or engineering context
Defect Elimination 	Integrated approach to manage or eliminate defects

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**