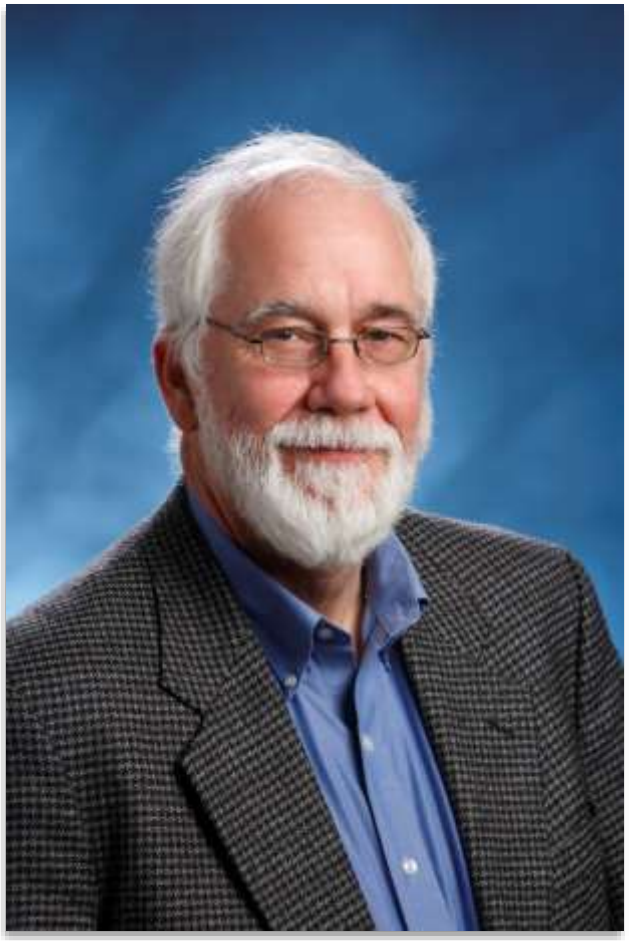
Integrating Plant and Process Data for Improved Operational Efficiency and Plant Safety

Presented by **Jim Ross**
Jon Howard

Agenda

- Webinar Series and Partner Solution Showcase
- Introduction
- PI System at Scottish Power Generation
- Business Requirement - Reduce the risk of a major Process Safety Incident occurring within SP Generation
- How SP Generation used Opralog to help meet this challenge
- Demo of Opralog by Scottish Power Generation and Infotechnics
- Questions
- Conclusions and Thank You

Mission



“Our mission is to maximize the Value our customers get from our product and services”

OSIsoft® Partner Solution Showcase

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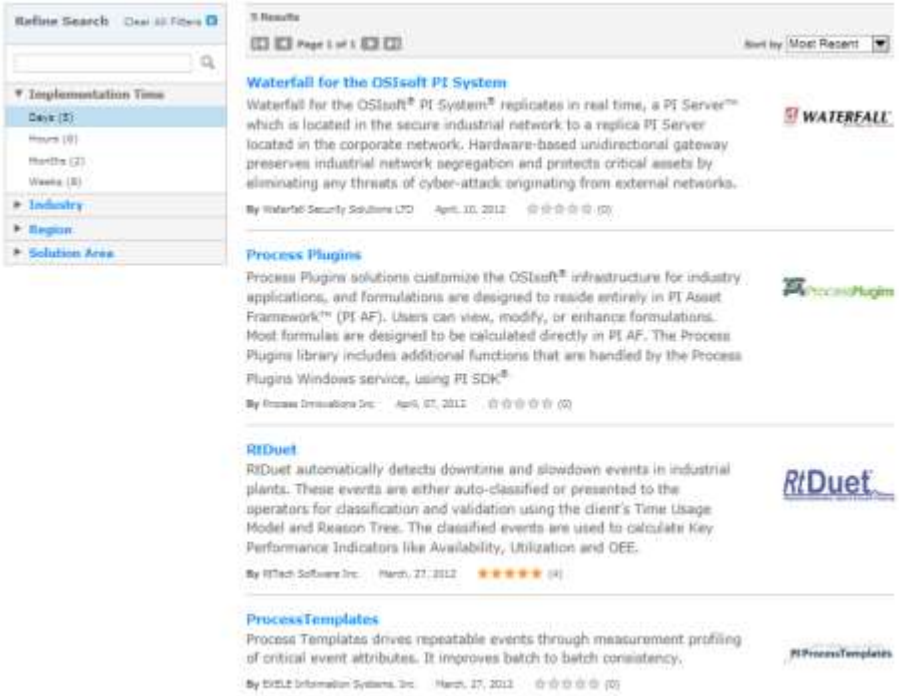

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- Information about customer
- Mission
- Website
- Logo
- Etc

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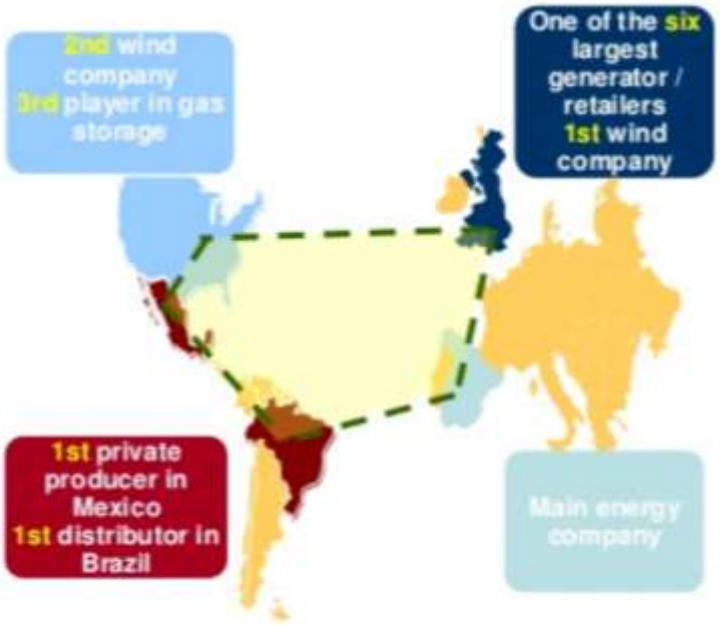
SCOTTISHPOWER

Iberdrola Group and ScottishPower

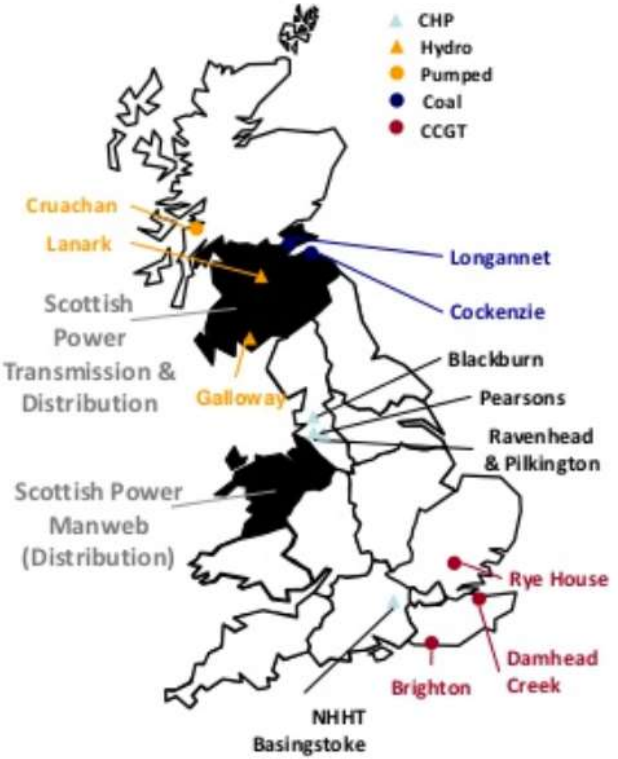
- Combined April 2007 to form the 4th largest Energy Utility company in the world
- Operating in over 40 countries to serve 30 million customers
- 44GW of installed capacity and a world leading 11 GW of renewables



ScottishPower Overview

ScottishPower is one of the "Big 6" energy

- Supply 5.2 million customers
- Over 8,000 employees
- 7GW of coal, gas, wind & hydro generation across the UK
- SP Renewables largest onshore wind operator in UK (1200 MW)
- Distribution area of over 35,000 square kilometres



In response to a series of worldwide Process Safety incidents ScottishPower Generation developed an Operational Transformation Program.

- **Piper Alpha**
- **Buncefield**
- **Texas City**
- **Deepwater Horizon**
- **Esso Longford**

Reduce the risk of a major Process Safety Incident occurring within SP Generation

Shift Handover / Reporting Recognised as a RISK

Operations Management Project Stream

Establishment of **common practices** across all sites ensuring that all plant is operated within design parameters and in accordance with agreed procedures.

Reconciling satellite spread sheets, black book data, disparate databases & numerous paper logs

Operational Logging

Objective – having front line operators who strive to maintain situational awareness, being highly informed about operations as a whole, not being 'siloed' within their own small sphere of influence

- Automate Event Capture
- Reduce Operator Workload
- Improve Data Reliability
- One Version of the Truth

Added Value

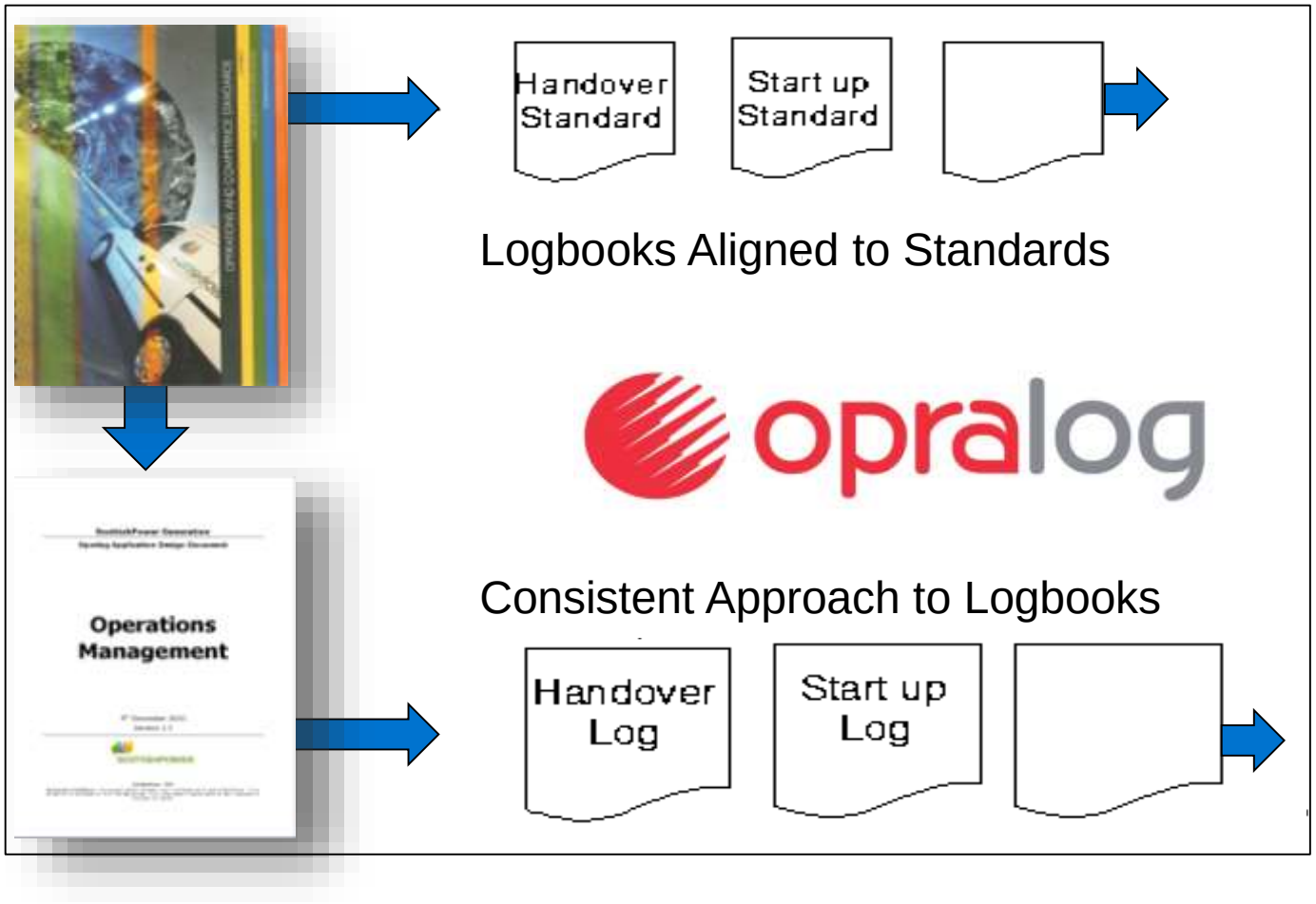
The PI System told us what happened but not always WHY

Greater knowledge of prevailing plant status and significant events allow speedier and more informed interpretations of the “hard” performance data obtained through the PI System.

Operations Management Project

- Opralog was implemented across all (11) UK generation plants
- A Bi-directional interface to OSIsoft PI System enables events to be triggered automatically depending on specific data values.
- Time Series PI Data can also be associated with logged events in Opralog giving it context and also making it more visible to users throughout the business
- The Standard Opralog Interface allows connections to other systems such as SAP and IBM Maximo thereby providing operators with all of the operational information they require in the one place

Opralog Configured Around the Operational Standards



Integrated Operations

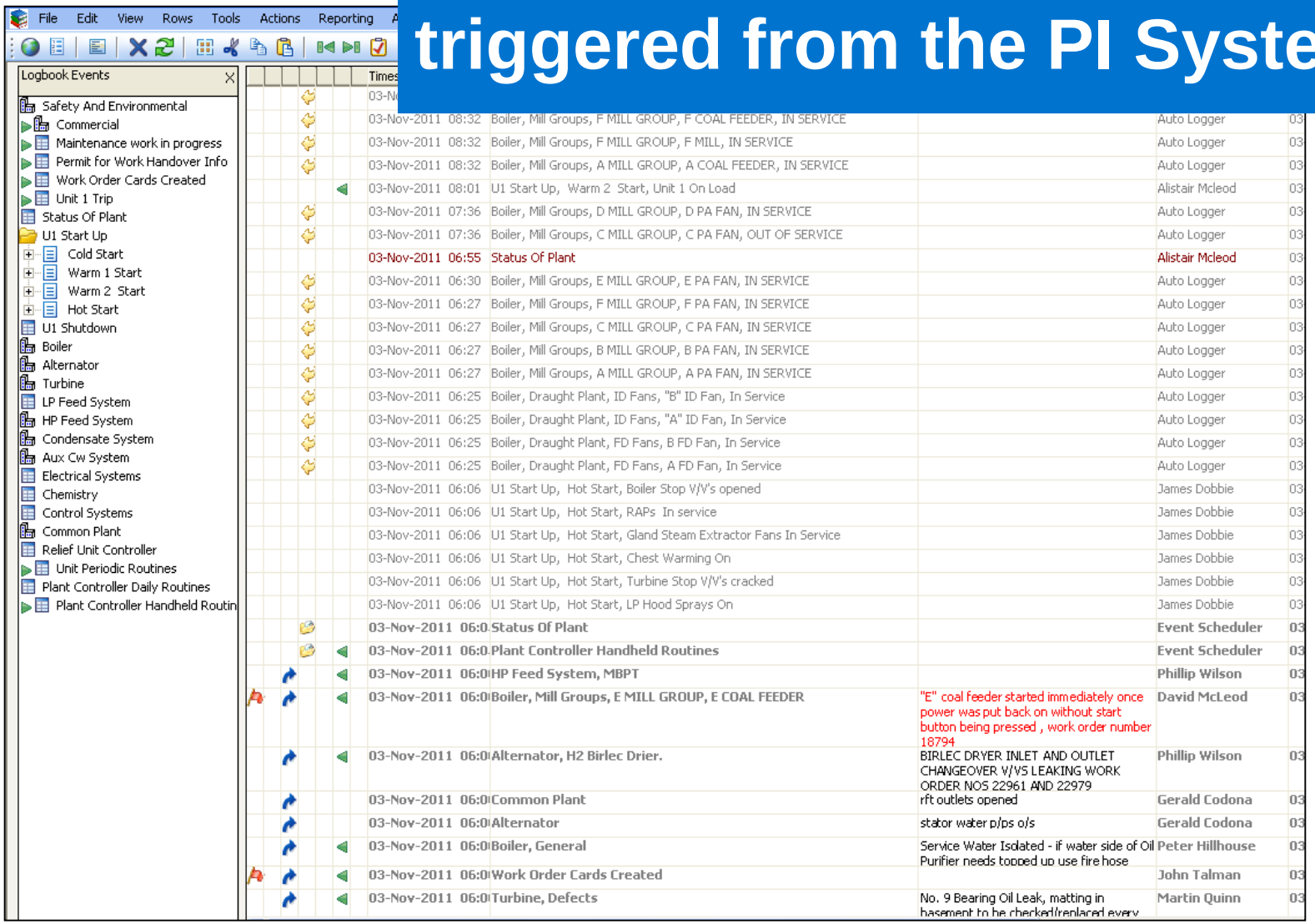
Integration between plant systems was key

A single view of operations from one screen / system

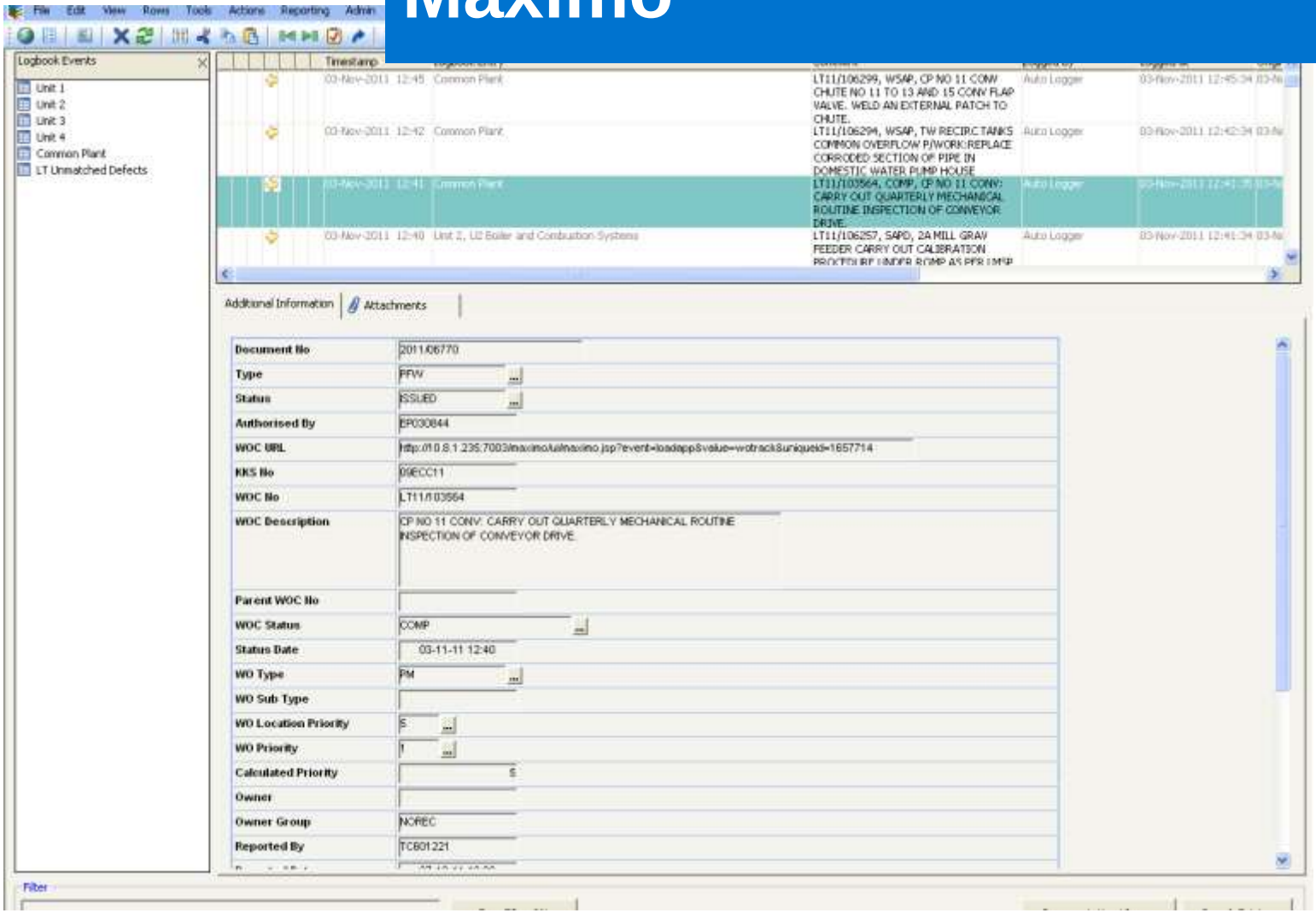
Need to integrate time series data with manual input from operators and other plant systems

- **OSIsoft PI System**
- CMMS (Maximo)
- Incident Management (Cintellate)
- Alarm Management (PAS)
- ISSOW (Eclipse)

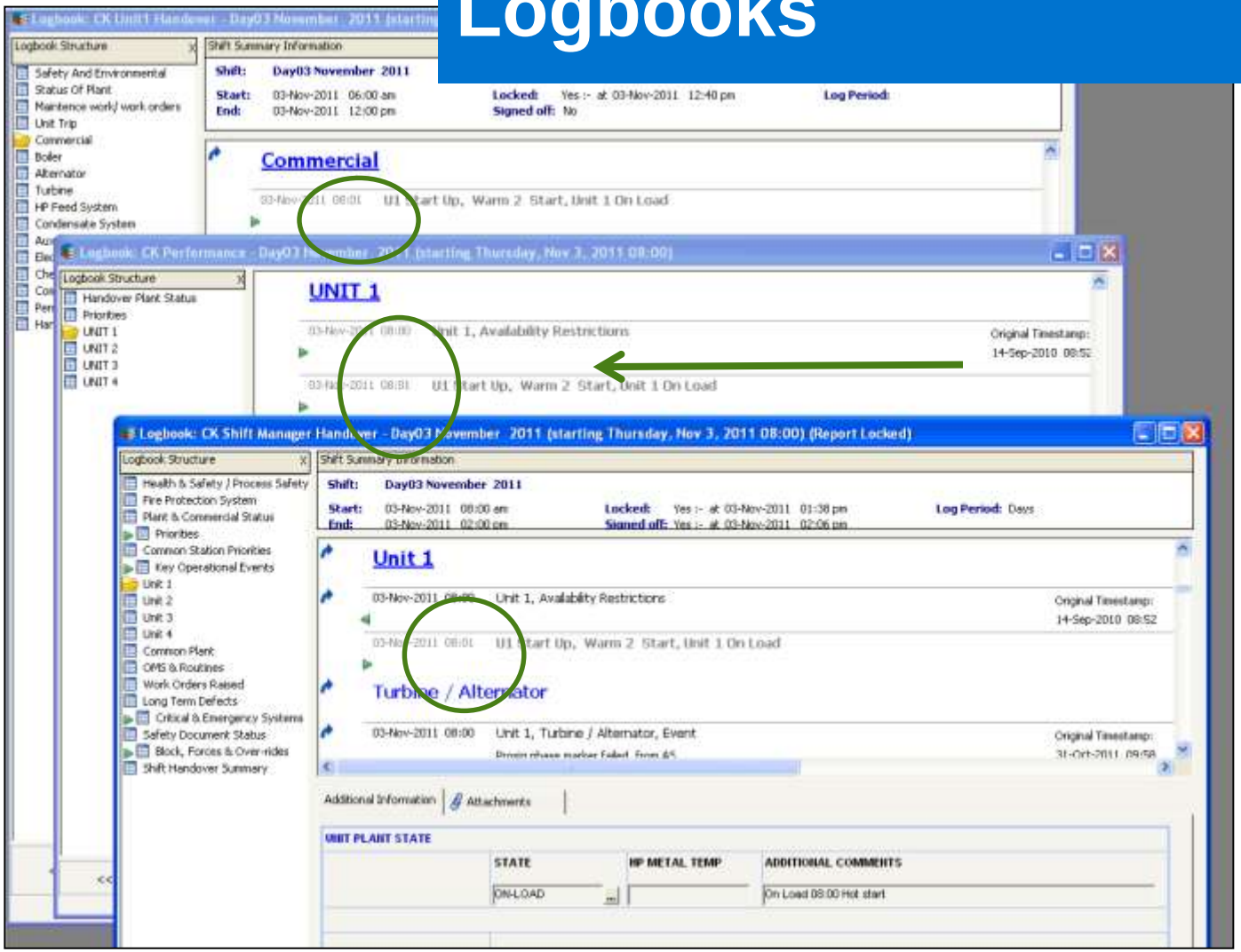
Automated data entry triggered from the PI System



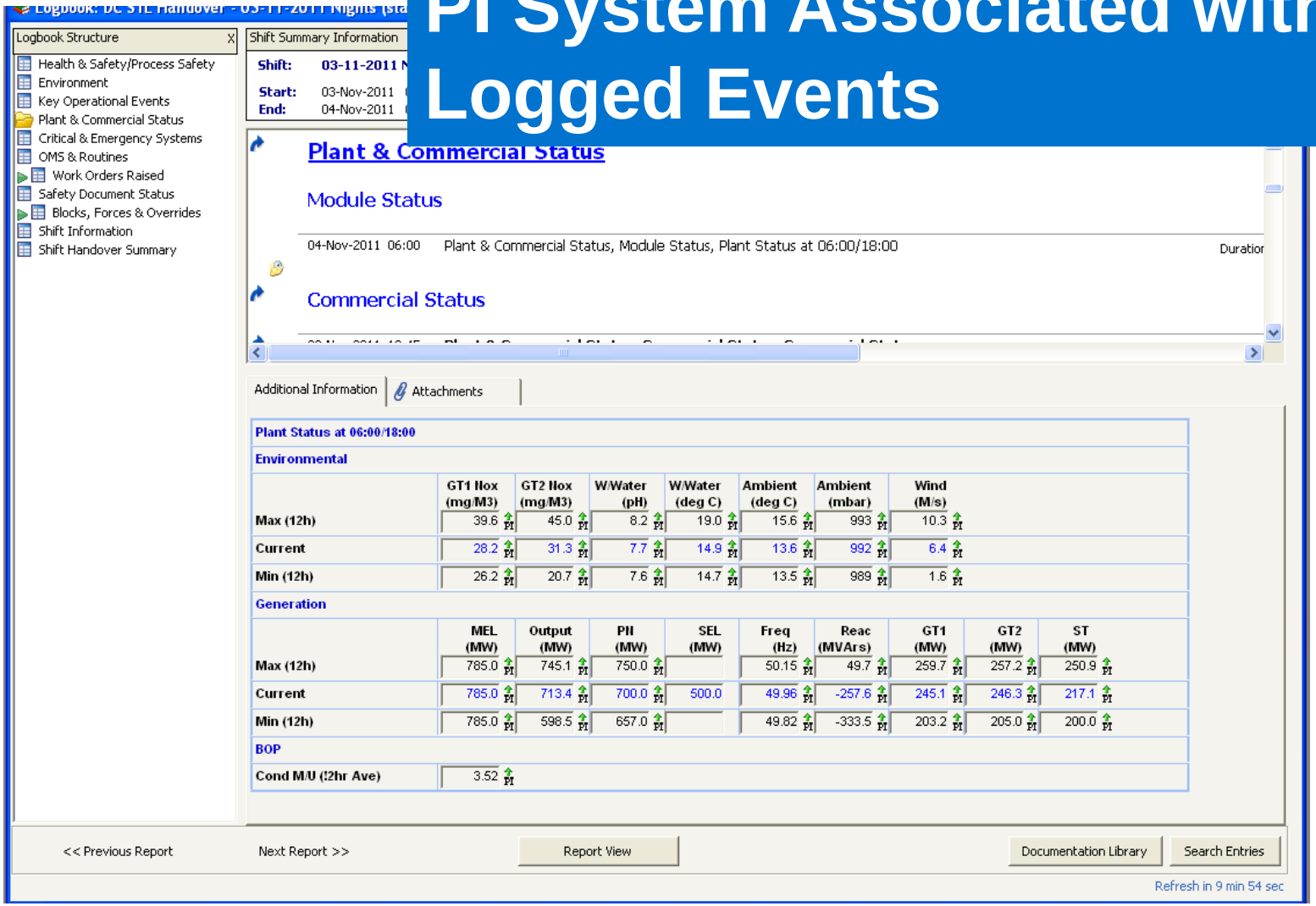
Automated events from Maximo



Events Shared Across Logbooks



Real-time Data from the PI System Associated with Logged Events



Business Reports with Data from Multiple Logbooks

SCOTTISHPOWER

Generation Report 03-11-2011

Plant & Commercial Status

Gas Group

04Nov 06:15

Gas Group Plant Status

	Damhead	Rye House	Shoreham
LOAD	638	-2	305
MEL	785	610	385
PN	657	0	315
Amb Temp (oC)	14	13	17
Amb Pressure (mB)	992	986	991

Coal Group

04Nov 06:15

Coal Group Plant Status

	LT U1	LT U2	LT U3	LT U4	CK U1	CK U2	CK U3	CK U4
LOAD	475	560	548	0	227	209	0	223
MEL					230	210	0	225
MILL AVAILABILITY	7	7	8	8				
Smoke Density	16.2	24.7	13.6	0.0				
Chimney NOx	440	473	454	0	599	397	624	845
BACK PRESSURE (mb)	48	64	54	0	40	38	0	58
MAKE-UP (%)	47	44	28	2				

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Benefits of an Integrated System

- Provide single view for operations and plant status reporting
- Improved shift handover and reliability of information recorded
- Automate event capture and reduce operator workload
- Ensures important plant events do not get missed
- Allows PI Data to be more easily accessible

Opralog Demonstration

Summary

An integrated approach to Operations Management is essential

The PI System tells us WHAT– Opralog tells us WHY

Supports business drivers of:

Improving plant availability, reliability and cost reduction

Reduces the Frequency and Severity of system failures and their impacts.

Arrange a demo

- www.infotechnics.co.uk
- sales@infotechnics.co.uk

Questions?

Partner Solution Showcase Webinar Series

Date	Title
June 19th, 2013	Magion Universe: Driving Real-time Operational, Process and Workflow Improvements with muSuite and muProMon

Webinar Recordings

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Thank you

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