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# **PG&E Gas Operations**

## **Gas Safety Excellence**

### **Briefing Background**

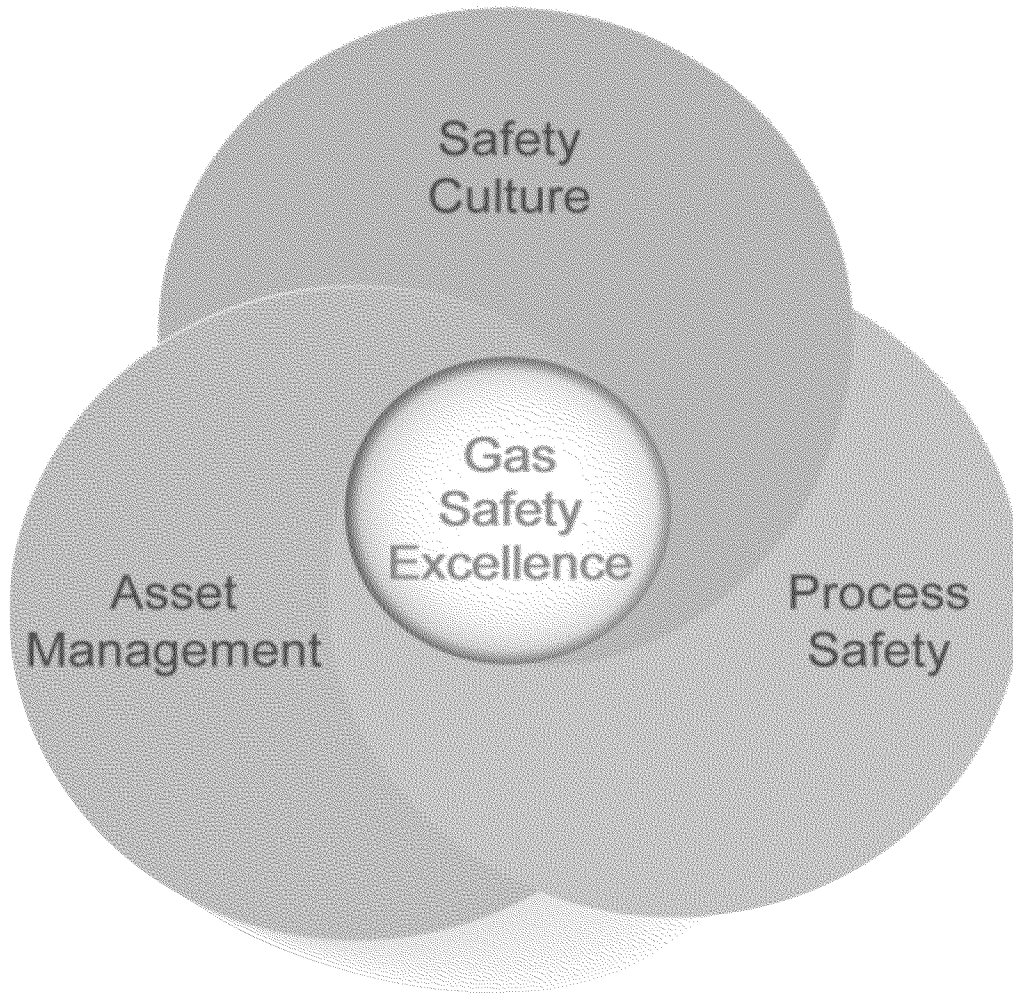
MAY 2014

Provide an update on our Gas Safety Excellence journey

Share the recent PAS 55 and ISO 55001 certifications and their implications

Demonstrate our commitment to continuous improvement

# Gas Safety Excellence Framework



**Safety Culture**

- Systematic approach to safety incident investigations
- Integrated corrective action program to identify and rectify issues
- Non-punitive reporting of safety issues

+

**Asset Management**

- Know the condition of your assets
- Understand the risks to those assets
- Develop and implement asset risk reduction strategies

+

**Process Safety**

- Identification and analysis of low frequency, high consequence hazards
- Operations within established parameters & pre startup safety reviews
- Enhanced engineering & design standards embedding process safety principles

**Gas Safety Excellence**

- Clear ownership and commitment towards safety excellence
- Safety accountability at all levels
- Motivated and engaged workforce



# Asset Management Standards

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PAS 55 and ISO 55001 standard are the foundation of PG&E Gas Operations' safety management system.

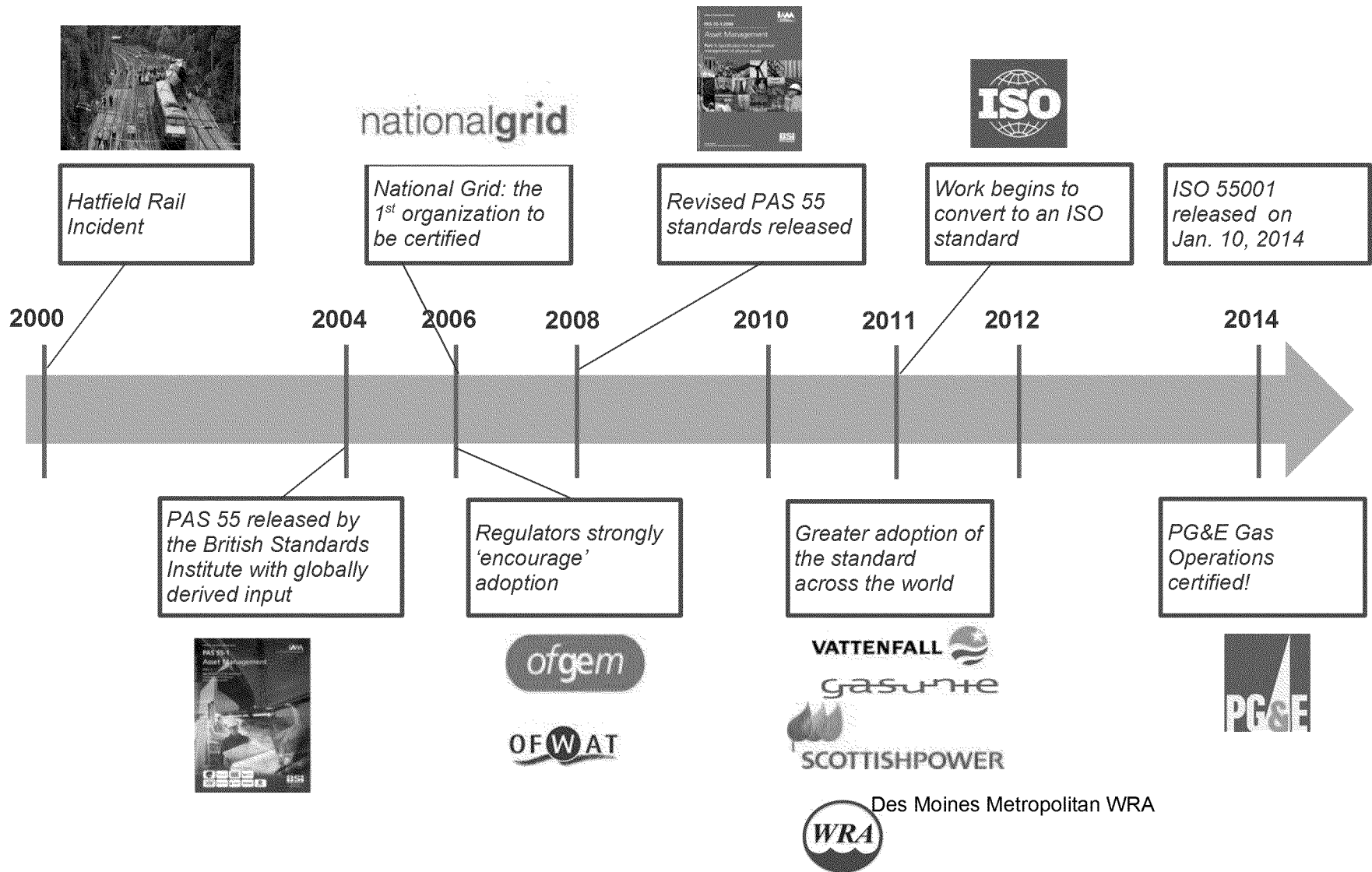
## Publically Available Specification 55 (PAS 55):

- First released in 2004; updated in 2008
- Specification focused on optimized management of physical assets.
- Widespread recognition among utilities, transport, mining, process, and manufacturing industries worldwide.

## International Organization for Standardization 55001 (ISO 55001):

- Released in January 2014
- Enables the development of an effective asset management system.
- ISO consists of members from the national standards bodies of 162 countries, and has published more than 19,500 international standards

# Key Events in the Evolution of PAS 55 and ISO 55001



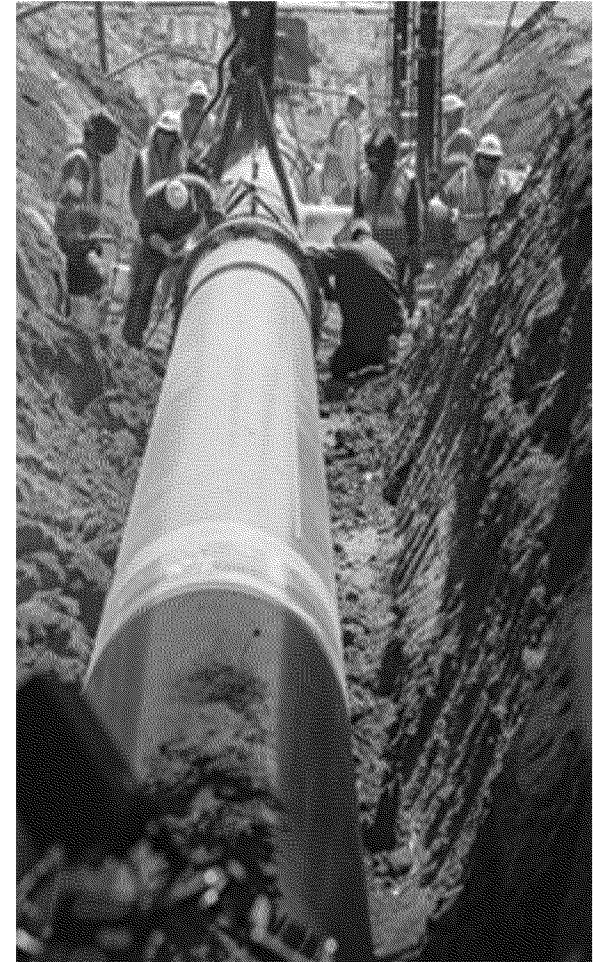
Why did PG&E Gas Operations pursue these certifications?

Provide a systematic framework to build world-class asset management capabilities.

Proof of our progress as these international certifications can only be achieved through a rigorous, independent third party audit.

Demonstration of growing strength of our safety culture, our rigorous approach to asset management and our commitment to gas safety excellence.

Assurance to PG&E's customers, regulators, and employees that the asset management policies and practices are effective.





# Our Gas Safety Excellence Journey

**2012**

**2013**

**2014**



**Baseline Assessment**

**Progress Updates**

**Full Review of the Asset Management System**

**Field-based Operational Assessment and Verification**

February 2012	October 2012
*	*
Start of our Program	Lloyds Pre-Assessment

February 2013	June 2013	December 2013
*	*	*
Lloyds Visits		

February 2014	April - May 2014
*	*
Lloyds <u>Stage 1</u> Assessment	Lloyds <u>Stage 2</u> Assessment

## October 2012

## May 2014

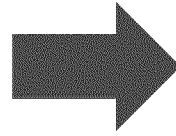
<b>Plan</b>	4.2 Asset Management Policy	4.3.4 Contingency Planning
	4.3.1 Asset Management Strategy	
	4.3.2 Asset Management Objectives	
	4.3.3 Asset Management Plans	
<b>Do</b>	4.4.1. Structure, Authority and Responsibility	4.4.7 Risk Management
	4.4.2. Outsourcing	4.4.8. Legal and Other Requirements
	4.4.3 Training, Awareness and Competence	4.4.9. Management of Change
	4.4.4 Communication, Participation and Consultation	4.5.1 Life Cycle Activities
	4.4.5 Asset Management System Documentation	4.5.2 Tools, Facilities and Equipment
	4.4.6 Information Management	
<b>Check</b>	4.6.1 Performance and Condition Monitoring	4.6.5.1 Corrective and Preventative Action
	4.6.2 Investigation of Asset Related Failures	4.6.5.2 Continual Improvement
	4.6.3 Evaluation of Compliance	4.6.6. Records
	4.6.4 Audit	
<b>Act</b>	4.7. Management Review	

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4.4.5 Asset Management System Documentation *	4.5.2 Tools, Facilities and Equipment
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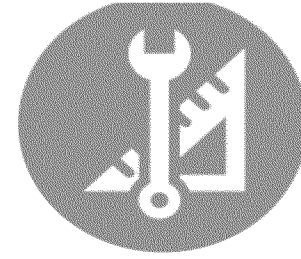
\*This was also a minor non conformance during Stage 1.



Stage 1  
February 2014

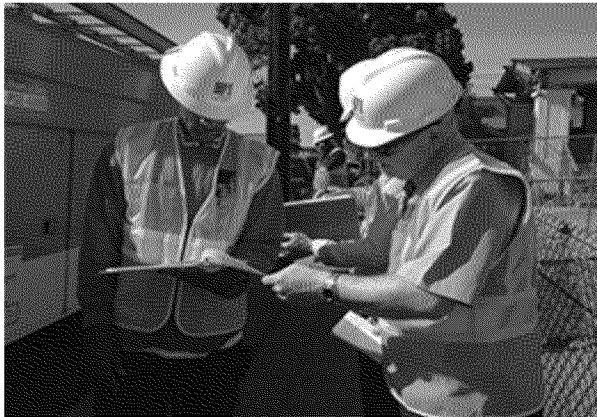


Stage 2  
April-May 2014



- **Office-based assessment, February 24-28**
- **Assessor(s) focused on guidance documents and supporting evidence.**
- Questions were primarily directed at “owner” of the clause.

- **Field-based assessment, April 28-May 9**
- **Assessor(s) focused on reviewing how we perform work in the field.**
- **Assessment involved visiting 17 yards and 150 field employees over a period of 2 weeks across the service territory of Gas Operations, travelling 1700 miles.**





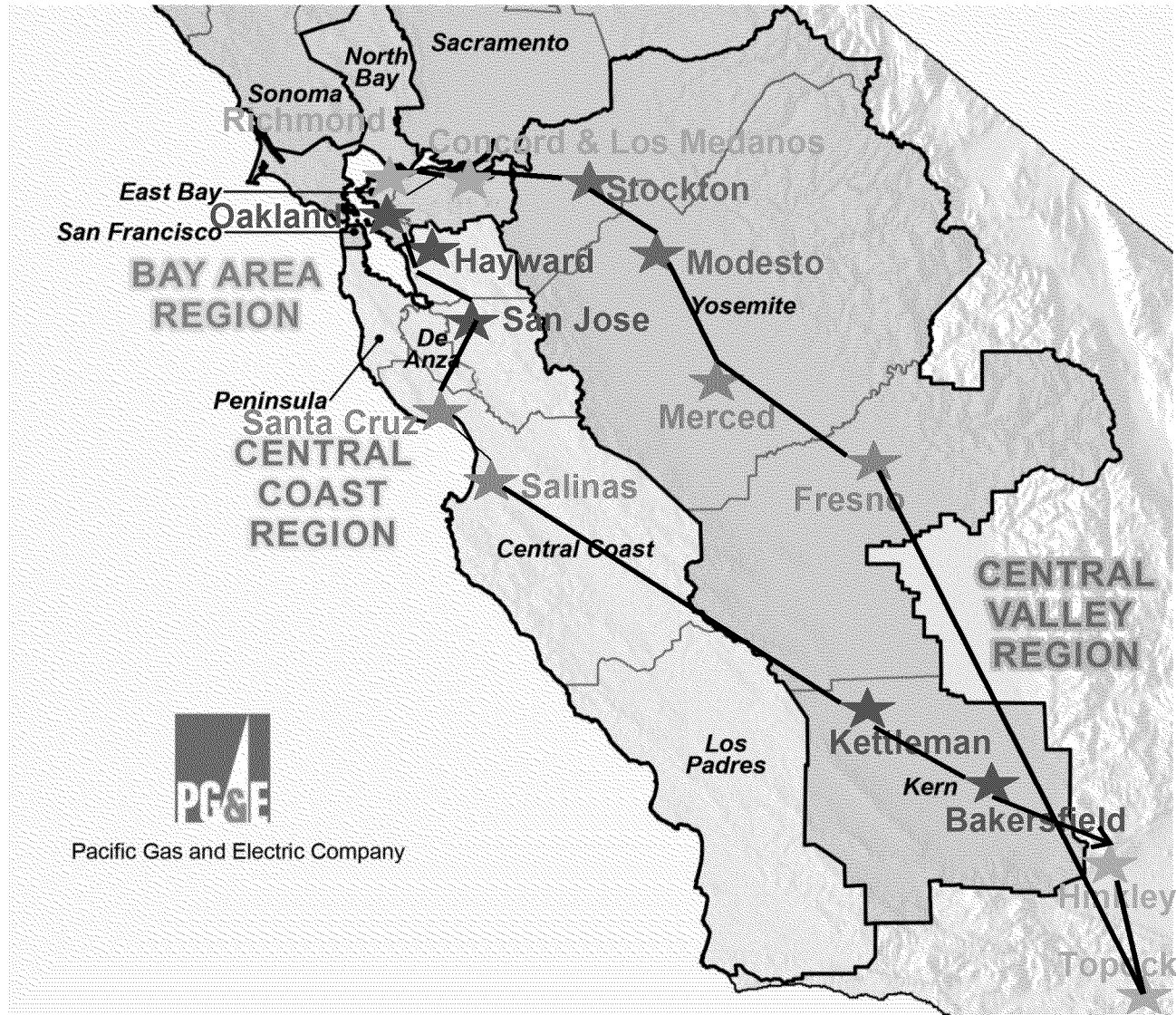
# Coverage of our Stage 2 Assessment

## Key Statistics:

Reviewed 24 areas of asset management

Travelled over 1700 miles over two weeks

Visited more than 150 men and women in Gas Operations



- ★ Tuesday, April 29<sup>th</sup>
- ★ Wednesday, April 30<sup>th</sup>
- ★ Thursday, May 1<sup>st</sup>
- ★ Friday, May 2<sup>nd</sup>
- ★ Monday, May 5<sup>th</sup>
- ★ Tuesday, May 6<sup>th</sup>
- ★ Wednesday, May 7<sup>th</sup>

## Areas of Strength

- Understanding of Gas Safety Excellence
- Awareness of Corrective Action Program
- Using calibrated tools & equipment

## Areas of Improvement

- Using out of date maps/drawings
- Lack of understanding regarding Management of change process







Five minor non conformances with certification elements:

**Records** : The amount of records that are required to be collated together with the capture of historic data makes this area difficult to resolve, however excellent progress have been made with the development of the RIM teams including dedicated experts in the various fields.

**Information Management:** Significant progress have been made in developing the information management systems and identifying the relevant information to be captured, however these systems are yet to be fully implemented.

**Asset Management System Documentation (2):** A number of guidance documents make reference solely to PAS55 processes, since the assessment also covers the requirements of ISO55001:2014 this should also be referred. Maps being used in the field had unclear and inconsistent last revision dates

**Management of Change:** Understanding of steps needed to assess operational and asset related change before action is taken e.g. installing asset 'A' without analyzing potential impact on asset or system 'B'

What happens next?

Address the **five minor non-conformances** in a timely manner to improve performance and demonstrate our commitment to continual improvement.

To maintain certification, PAS 55 and ISO 55001 must be renewed **every three years**, along with **annual** follow-up assessments.

Our first follow-up assessment is scheduled for week of **3<sup>rd</sup> November 2014**.

PG&E's Gas Operations must both sustain the performance demonstrated at the time of initial certification and **continue to improve** in order to keep the certifications.



**Javid Khan**

**Sr. Director Strategy and Process Excellence**

**Pacific Gas and Electric Company**

**Gas Operations**

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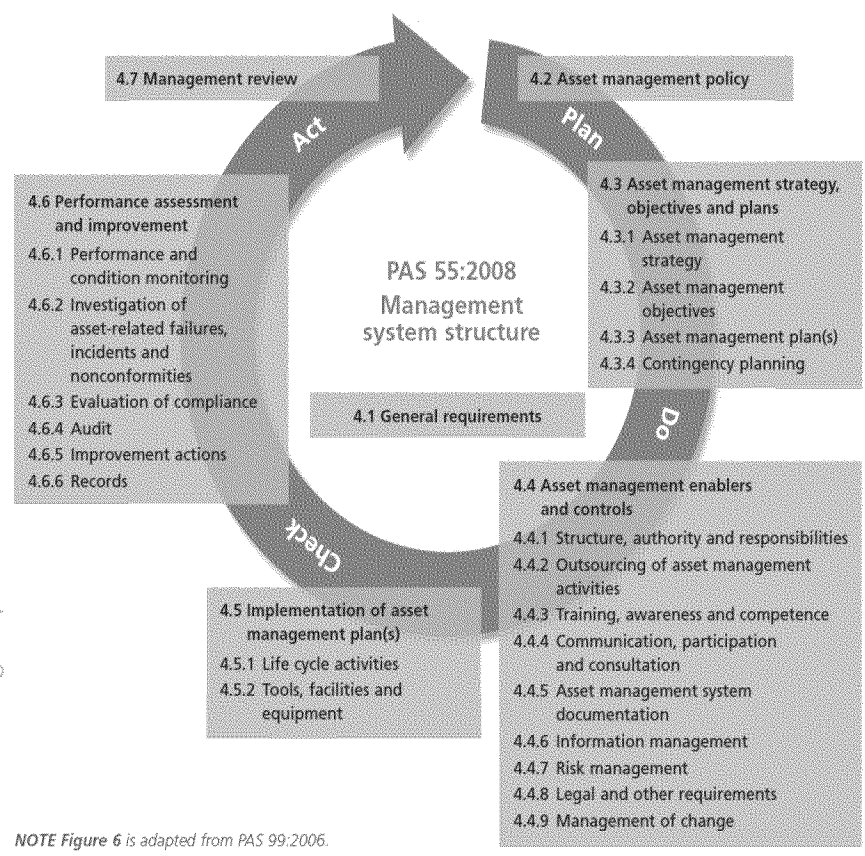
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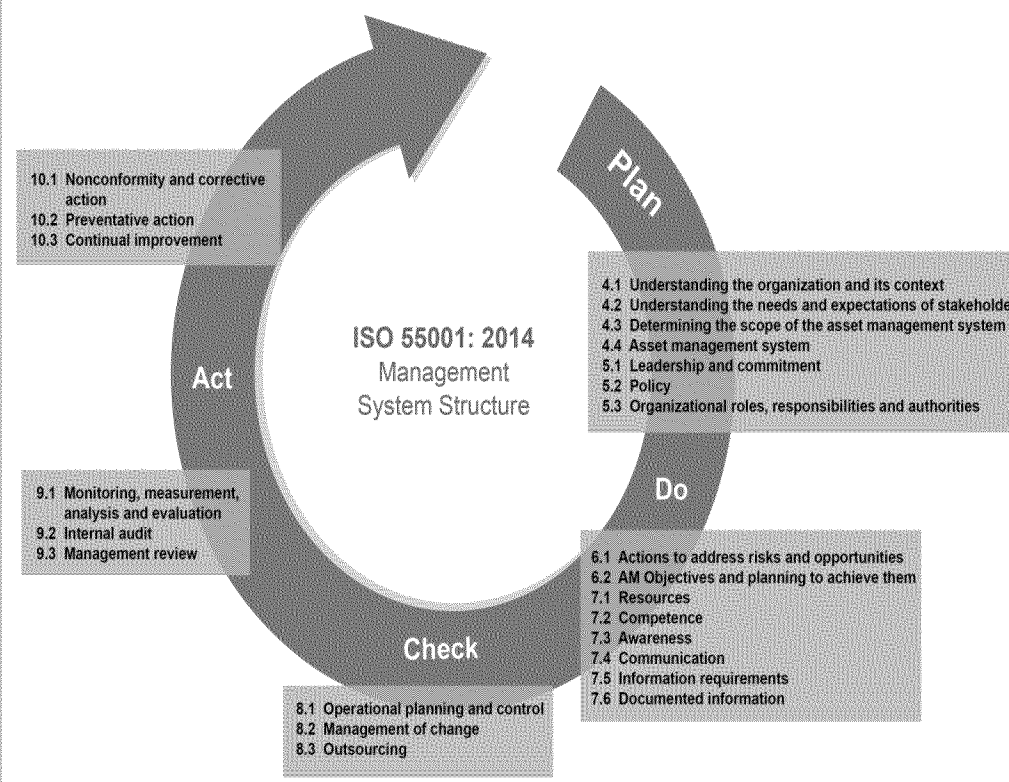
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# Appendix

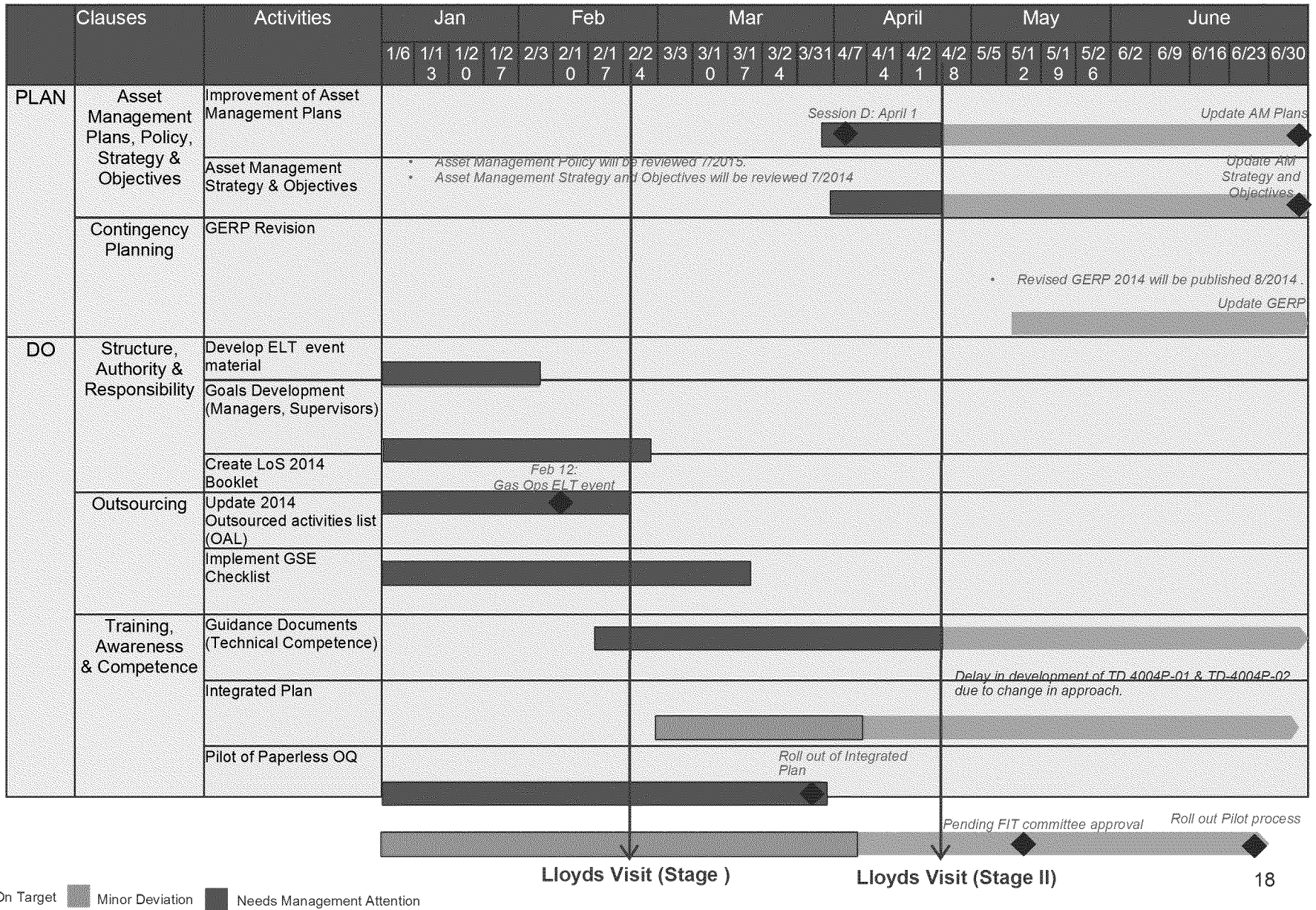




NOTE Figure 6 is adapted from PAS 99:2006.



# GSE Program Schedule 2014





# GSE Program Schedule 2014

Clauses	Activities	Jan		Feb				Mar				April			May			June							
		1/6	1/13	1/20	1/27	2/3	2/10	2/17	2/24	3/3	3/10	3/17	3/24	3/31	4/7	4/14	4/21	4/28	5/5	5/12	5/19	5/26	6/2	6/9	6/16
DO	Communication, Participation & Consultation	Employees	Gas Matters Newsletter		Gas Ops Leadership Meeting				Gas Matters Newsletter																
		Regulatory	PSEP Quarterly Report		GT&S Bi-Annual Report				PSEP Quarterly Report																
		Gas Safety Excellence	Brown Bag Event		Grass roots Safety Kick offs events				Field visits			Brown Bag Event			Brown Bag Event										
Asset Management System Documentation	Document Development Process	Updated TD-4060S				Champion Network meeting																			
	Documentum											User Acceptance Testing			Go-No-Go decision										
Information Management	Guidance Documents	Published SAP, eGIS, PLM documents		Published dGIS, OSI PI, MET documents				UAT date moved to 4/24																	
	Develop GIS DQ Score composite											GIS Scorecard													
	Implement Governance Process											PLM			MAOP										
Risk Management	Risk Register Refresh	Evaluations Completed		Calibration of Risk Scores				March 7 - Gas Ops Leadership Review																	
	Risk Register Automation/Warehousing											April 1 - Session D													
Legal Requirements & Evaluation of Compliance	Integrate new requirements into Risk Register											Risk Register in ECTS: Moved to 4/30													
	Mature use of CAP for tracking audit findings											Refresh Risk register													

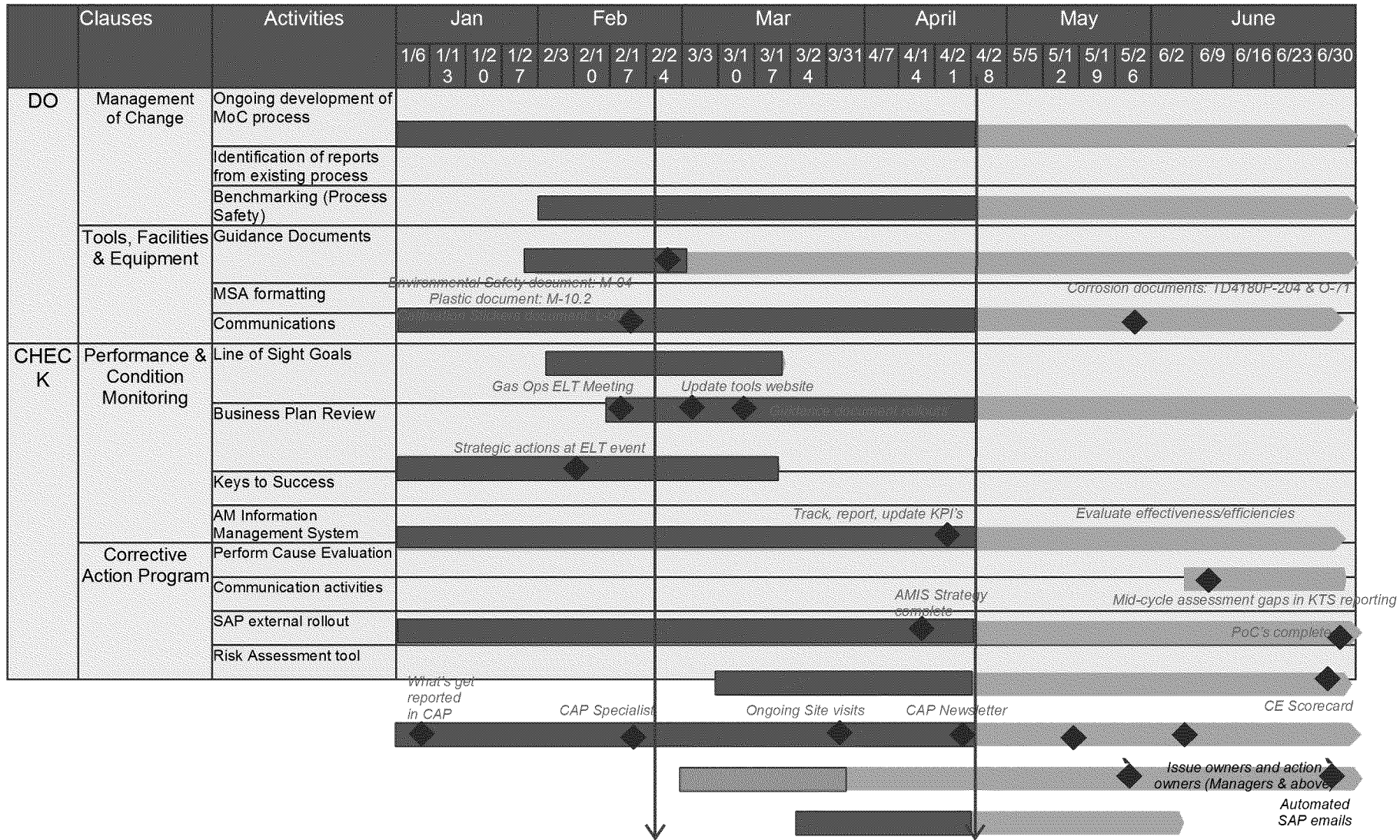
Lloyds Visit (Stage I)

Lloyds Visit (Stage II)

On Target
  Minor Deviation
  Needs Management Attention



# GSE Program Schedule 2014



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# GSE Program Schedule 2014

Clauses	Activities	Jan			Feb			Mar			April			May			June									
		1/6 3	1/1 0	1/2 7	2/3 0	2/1 7	2/2 4	3/3 0	3/1 7	3/2 4	3/31 0	4/7 4	4/1 1	4/2 8	5/5 2	5/1 9	5/2 6	6/2 6	6/9 6	6/16 23	6/30 30					
CHECK	Continual Improvement	Benchmarking	AQA Kickoff meeting - Peer-to-peer Review at Atmos Energy												AQA best practices meeting											
		Process Improvement													PIC Meeting			PIC Meeting			PIC Meeting					
		Cost Controls	Scope/Executive												Integrate into long term process											
	Records	Gas Records Retention Schedule	Identify Project Leads												Q1- Records Retention Schedule completed. Internal legal review complete. Decision on external legal review in process											
		Gas Records Inventory Annual Review	Business Process Record Mapping												Annual Review - continuous based on FQ assessment and business process mapping						Phase 2 Completion: Mapping Records					
		Change Management Plan	Execute RIM Basics Training												Execute/publish four modules - pending approval from PG&E academy/Gas training steering committee						Communication					
		Vital Records Program	Back-up Process/Ongoing protection of paper records																							
		Field Office Paper Records Assessment	Identify additional offices												Ongoing: Schedule & conduct assessments											
				Identify RIM coordinators												Refresh audit plan pending approval						Refresh audit plan				
	Audit	Audit plan													Refresh audit plan pending approval			Refresh audit plan								
Implement Process Safety Management Best Practices														Ensure consistent implementation Further define roles/skill sets												
Guidance Document Improvements														Refresh guidance documents												
ACT	Management Review																									

Lloyds Visit (Stage I)

Lloyds Visit (Stage II)

On Target
  Minor Deviation
  Needs Management Attention