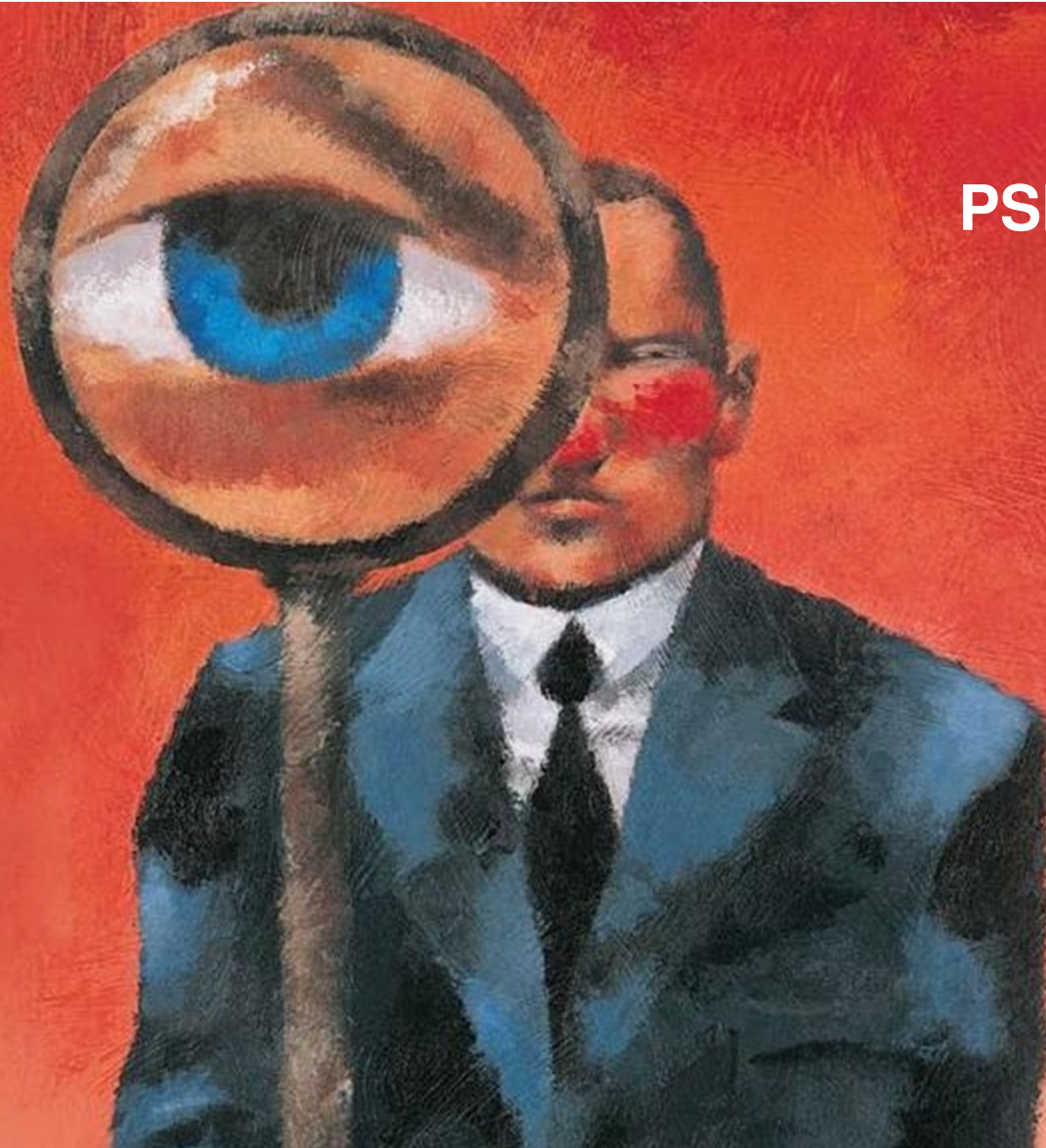




hfl
risk services

PSM Benchmarking Study

Julian Hought



INSIGHT Lifecycle[®] question sets



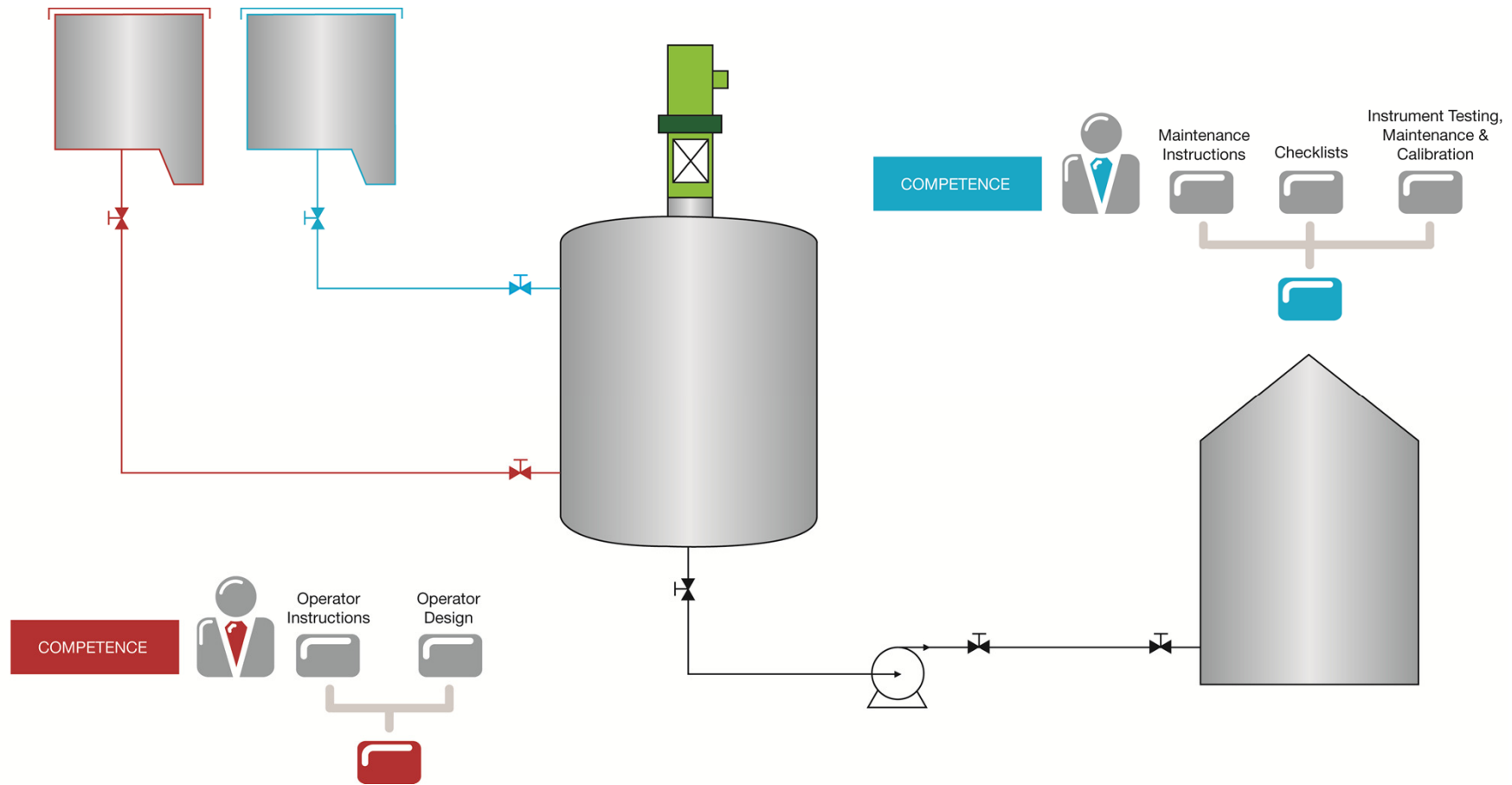
HSG 65 Model

CCPS
Guidance

Standards (CCPS Guidance, based on requirements of 29 CFR 1910)	Leadership		Management (HSG 65 Steps)						
			Policy	Organisation	Planning	Monitoring	Audit	Review	
Commitment to Process Safety									
Process Safety Culture	●	●	●	●	●	●	●	●	●
Compliance			●	○	○	○	○	○	○
Competence, Training & Performance			●	○	○	○	○	○	○
Workforce Involvement & Stakeholder Outreach			●	○	○	○	○	○	○
Understanding Hazards & Risks									
Knowledge Management			●	○	○	○	○	○	○
Hazard Identification / Risk Assessment			●	○	○	○	○	○	○
Managing Risk									
Operating Procedures & Conduct of Operations			●	○	○	○	○	○	○
Safe Work Practices			●	○	○	○	○	○	○
Asset Integrity Management & Operational Readiness			●	○	○	○	○	○	○
Contractor Management			●	○	○	○	○	○	○
Management of Change			●	○	○	○	○	○	○
Emergency Management			●	○	○	○	○	○	○
Learning from Experience									
Incident Investigation			●	○	○	●	○	●	●
Measurement and Metrics (inc. KPIs)			●	○	○	●	○	●	●
Auditing & Management Review			●	○	○	●	○	●	●
<ul style="list-style-type: none"> ● Board level responsibilities ○ Senior management responsibilities 									
	Board leadership/responsibility	Visibility (contact, communications, priority etc)	Policy			KPIs		Improvement Plans	
CIA Guidance for Process Safety Leadership (Board)									

Principles set out by PSLG

Process system – 4P's



Standards (CCPS Guidance, based on requirements of 29 CFR 1910)	Management (HSG 65 Steps)					
	Policy	Organisation	Planning	Monitoring	Audit	Review
Commitment to Process Safety						
Process Safety Culture	●	●	●	●	●	●
Compliance	●	●	●	●	●	●
Competence, Training & Performance	●	●	●	●	●	●
Workforce Involvement & Stakeholder Outreach	●	●	●	●	●	●
Understanding Hazards & Risks						
Knowledge Management	●	●	●	●	●	●
Hazard Identification / Risk Assessment	●	●	●	●	●	●
Managing Risk						
Operating Procedures & Conduct of Operations	●	●	●	●	●	●
Safe Work Practices	●	●	●	●	●	●
Asset Integrity Management & Operational Readiness	●	●	●	●	●	●
Contractor Management	●	●	●	●	●	●
Management of Change	●	●	●	●	●	●
Emergency Management	●	●	●	●	●	●
Learning from Experience						
Accident Investigation	●	●	●	●	●	●
Measurement & Metrics (inc PSPis)	●	●	●	●	●	●
Auditing & Management Review	●	●	●	●	●	●
	Policy			KPIs		Improvement Plans
	CIA Guidance for Process Safety Leadership (Board)					

Key:

- Board level responsibilities
- Senior management activities

Benchmark focus



Containment systems and protective devices:

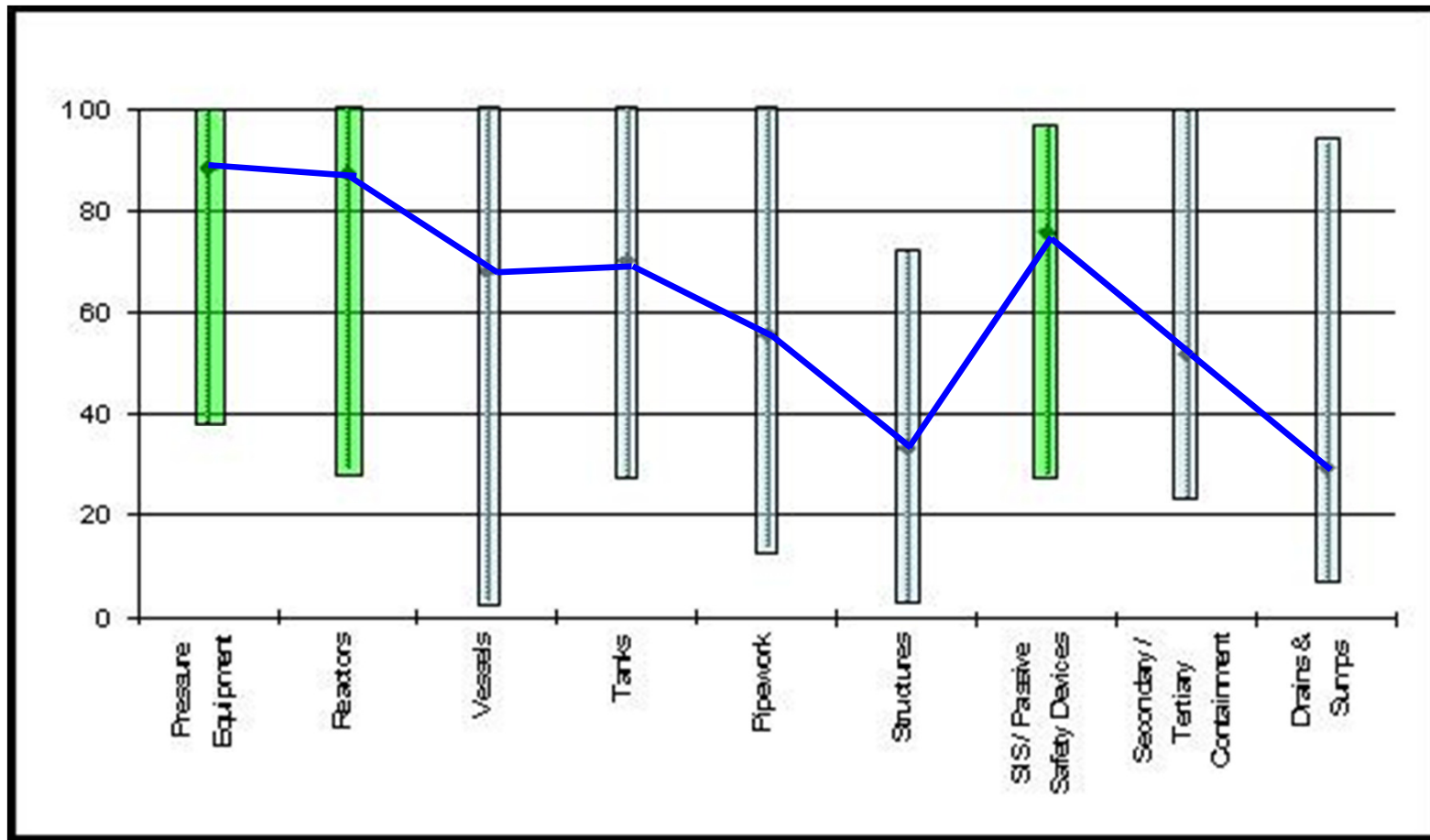
- Primary (falling under PSSR)
- Primary (not covered by PSSR i.e. vessels / tanks)
- Piping systems
- Structures
- Safety instrument systems (SIS) / protective devices
- Secondary & tertiary containment
- Drains & sumps

Benchmarking programme



- Sites regulated under COMAH
- Examined systems in place for AIM
- Recognised standard, structured around POPMAR
- Considered 4P's
- 206 data points per site
- Nearly 2,500 data points in all

Overall findings - Plant




Overall findings - Plant



Areas that scored highly

- Compliance for pressure equipment
- Compliance for SIS and passive devices
- 'Non Codal' high risk process systems (sometimes)

Areas that scored less well

- Inspection of structures
 - Inspection & testing of secondary & tertiary systems
 - Medium & lower risk process systems
 - Criticality
- 

General difficulties



- Identification of standards
 - Inspection plans
 - Inspection procedures
 - Critical parts and repair activities
 - Handover
 - Data analysis and review of inspection plans
-

Overall findings - People



Highest scores against activities for “technical” staff....

- Design
- C & I maintenance
- Inspection
- Contractors

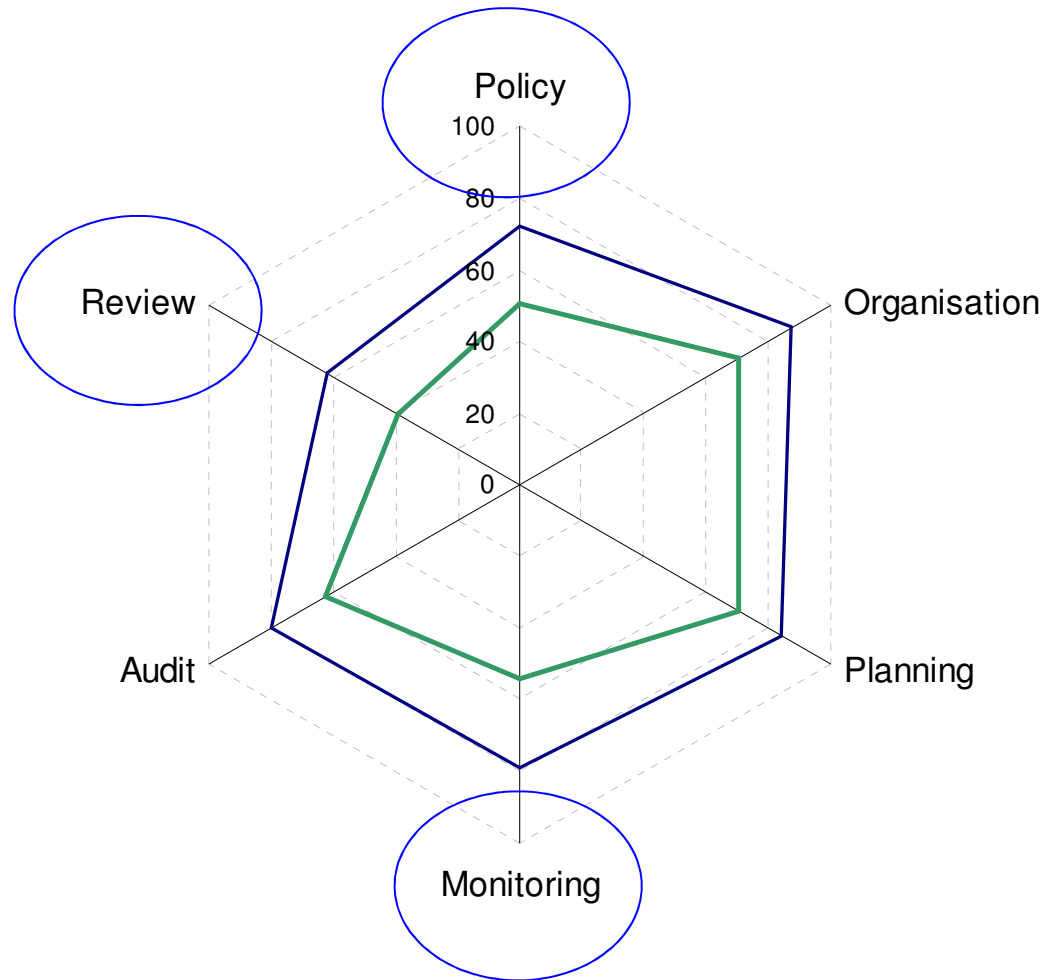
Overall findings - Procedures



Areas that scored less well


- Policy – specific to AIM
- Monitoring – performance and working practices
- Auditing – specific to AIM
- Review – frequency and effectiveness

Comparison with benchmark



Overall conclusions



- AIM generally good where clear framework exists (e.g. PSSR and SIS)
 - High risk systems generally well managed
 - Assurance processes lacking (policy, monitoring, audit, review)
 - Reactive compliance, rather than setting out programmes of test & inspection
- 

Leadership challenges



- Business case
 - High consequence / low probability incidents
 - Understanding of PSM systems
 - Assurance processes
 - Engagement of the workforce and continuous improvement
-

Questions

