



## Process Safety Working Group Update: October 2014

**Chairman - Tony Stonehewer National Grid**

### Members

**Paul Riley**

**Bob Lawson**

**Ian Reed**

**Noj Sehmar**

**David Tidball**

**YanYen Chen**

**Chris New**

**Greystar**

**Greystar**

**Northern Gas Networks**

**National Grid**

**Wales and West Utilities**

**Eon**

**BP**

### Support

**Nikki Barker**

**UKOPA**

## PSWG Work Plan Update

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- Annual Process Safety Report
- HSE Liaison
  - Better Regulation (COMAH)
  - UKOPA member Performance
  - Pressure System Safety Regulations
- Process Safety Assessment Tool (PSAT) Survey 2014
- UKOPA Process Safety Training
- Process Safety Leadership Forum
- Sharing learning 2014

# Process Safety Annual Report 2013

Summary - 16 members – 22,213km reported

- ➤ Zero pipelines were operated above their safe operating limit.
- ➤ 2 incidents of product loss (pin holes on girth welds) similar to previous years
- ➤ 764 pipeline corridor infringements by 3<sup>rd</sup> parties consistent with previous years.
- ➤ 7 reports of damage associated with 3<sup>rd</sup> party - work higher than previous years.
- ➤ 2,109 km internally in line inspected within expected limits.
- ➤ 1,326 km externally inspection length was lower than anticipated for the period.
- ➤ 66 highest ever number of Emergency Exercises carried out in year
- ➤ 129 operators trained in Pipeline Emergency Response Officer Role.
- ➤ 41 Safety alerts issued significant improvement on previous years sharing

Report to be publish full report October 2014

*Consider developing small hand out report*

# Process Safety Assessment Tool 2014 Survey

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Last Survey 2012 - 13 members took part  
Proposal

- Carry out Survey Nov 2014 to Dec 2014
- Member contact name -
- Re-issue PSAT username under new Company ref
- Spreadsheet with questions to allow pre-work

Follow Up

- Good Practice Review Wednesday 25<sup>th</sup> March 2015
  - 3<sup>rd</sup> party Infringement Management
  - Asset Records
  - Competency & Training

# HSE Better Regulation

## ■ Better Regulation review COMAH

## ■ Four themes

- Single regulatory contact for COMAH
- Recognition for Good Performance
- Improved Appeals Process
- Greater transparency on cost recovery

## • COMAH Strategic Forum

## • Is there anything in it for PSR Operators ?

### CoMAH Strategic Forum

- Who are the CoMAH Strategic Forum?
  - Senior Trade Association and Regulatory personnel
  - Oversee better regulations implementation
  - Monitor the success and influence of the better regulation changes
  - Continue to review performance of industry and the sector – identify areas for review or improvement
    - » Commission work were appropriate
    - » Engage with UK Government
  - May consider challenges that impact the chemicals sector (for example containment policy)



# HSE Better Regulation Recognition for Performance

- Not seek to remove all inspections
- Linked to performance scores
- May accept a 3<sup>rd</sup> party review of performance as evidence

## Influence annual intervention plan

- Factors considered
  - significance of the Hazard
  - Performance – PSI
  - Continuous Improvement and Leadership

As at 07/11/2013

Identifier	COMAH Duty	Strategic Priorities (As recorded on the last date of entry)					
		Competence	Emer. Prepared Off-Site	Emer. Prepared On-Site	Key Performance Indicators	Overfill Protection	Second/Tertiary Containment
1	COMAH Top Tier Operator						
2	COMAH Top Tier Operator	20	20	20	10	30	10
3	COMAH Top Tier Operator	40	20	30	10	20	20
4	COMAH Top Tier Operator		10	30	30	20	40
5	COMAH Top Tier Operator	40	20	30	0		40
6	COMAH Top Tier Operator		20	30	30	30	40
7	COMAH Top Tier Operator			20	10		40



# HSE Better Regulation Recognition of Performance

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- Third party verification
  - Example “Chemical Distribution Institute”
  - Audit / Inspection
- Training & Competence
  - Approved courses for
  - Senior leaders
  - Managers
  - Operators



# HSE Better Regulation Improved Appeals Process



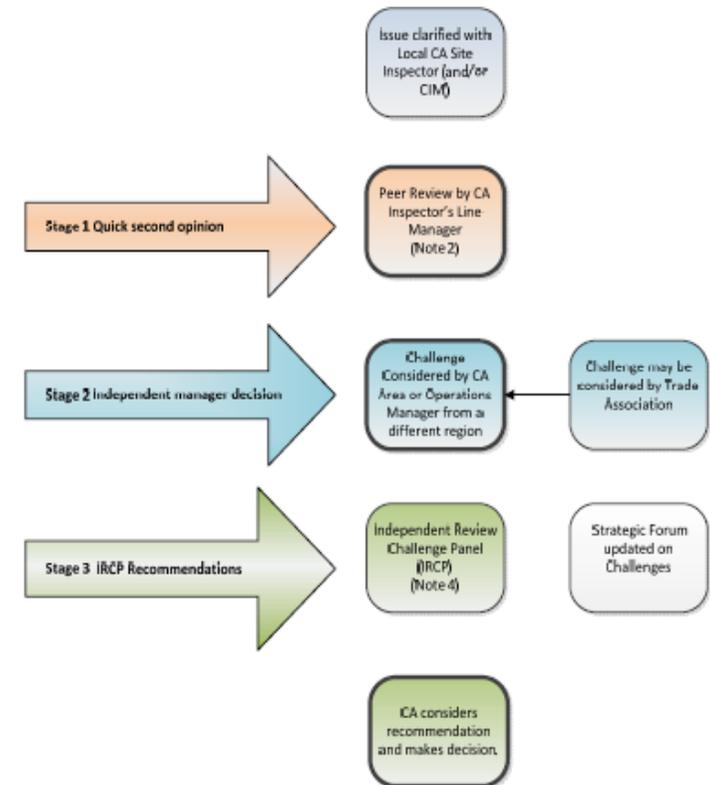
## Is this an issue for Pipeline Operators ?

Revised COMAH process

Role for Trade Body

Independent challenge

- A documented and formal process for challenging regulatory actions arising from inspections – clear escalation points and outcomes
  - Stage 0: Resolve locally with site inspector and CIM
  - Stage 1: Peer review of the challenge by inspectors line manager
  - Stage 2: Review by area/operations manager, may also be considered/evidence gathering by Trade Association ‘the rest of the sector does this....’
  - Stage 3: Independent review challenge panel, independent experts in the field consider evidence and make judgement
  
- *Note however the regulator is not obliged to accept advice given – judicial review may be required*



# HSE – UKOPA Performance

Intervention Score

Scores based on initial visit

Score relates to last inspection could be 4-5 years old?

Performance Assessment					
Each risk control topic should be assessed against the following performance criteria, a score of 20 or 10 must satisfy all specified criteria.					
60	50	40	30	20	10
Unacceptable	Very Poor	Poor	Broadly Compliant	Fully Compliant	Exemplary
Unacceptably far below relevant minimum legal requirements. Most success criteria are not met. Degree of non-compliance extreme and widespread. Failure to recognise issues, their significance, and to demonstrate adequate commitment to take remedial action.	Substantially below the relevant minimum legal requirements. Many success criteria are not fully met. Degree of non-compliance substantial. Failures not recognised, with limited commitment to take remedial action.	Significantly below the relevant minimum legal requirements. Several success criteria are not fully met. Degree of non-compliance significant. Limited recognition of the essential relevant components of effective health and safety management, but demonstrate commitment to take remedial action	Meets most of the relevant minimum legal requirements. Most success criteria are fully met. Degree of non-compliance minor and easily remedied. Management recognise essential relevant components of effective health and safety management, and commitment to improve standards.	Meets the relevant minimum legal requirements. All success criteria are fully met. Management competent and able to demonstrate adequate identification of the principal risks, implementation of the necessary control measures, confirmation that these are used effectively; and subject to review.	Exceeds the relevant minimal legal requirements. All success criteria are fully met. Management competent, enthusiastic, and proactive in devising and implementing effective safety management system to 'good practice' or above standard. Actively seek to further improve standards.
EMM Risk Gap					
EXTREME	SUBSTANTIAL	MODERATE	NOMINAL	Not applicable	Not applicable
Initial Enforcement Expectation					
Formal enforcement Notice and / or Prosecution.	Formal enforcement Notice / Letter.	Letter / IN.	Verbal instruction / letter.	Verbal instruction may be appropriate.	No further action is necessary

# UKOPA Performance Ratings

Anonymous scores provided by HSE

76 Pipeline Operator Scores (not sure how this works?)

	Competence	Emergency Response	Pipeline Design Compliance	Pipeline Integrity Management	Pipeline SMS	Safety Leadership	Safety Performance Indicators
No of Scores	32	44	47	50	53	32	32
Average Score	23.8	23.6	21.9	23.8	25.8	23.8	27.2
Best	20	10	10	10	20	10	10
No of Operators Exemplary		3	2	5		1	2

Opportunity share across operators –

Suggest UKOPA focuses on – Competency & Pipeline SMS

Request HSE provide annual update to the scores

# Process Safety Training

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## Update on proposal to develop a UKOPA PS Course

- Number of members already attend courses
- Some interest however not sufficient to use external trainers
- Option develop a trial training programme to be delivered in 2015
- Scope – Process safety principles,
  - hazard and risk analysis
  - Integrity management
  - Human factors
  - Performance monitoring
  - Audit and Investigation
- Target audience?

# Process Safety Leadership Forum

Trade body forum monitored by HSE

Purpose to – Share Process safety learning across industries

Good links with COMAH review

Chemical and Downstream Oil industries Forum & guidance work

Process Safety Learning briefs

Set up Website

<http://www.p-s-f.org.uk/>



## Newsletter – October 2014

### About the Forum

The Process Safety Forum (PSF) was set-up to provide a platform whereby initiatives, best practice, lessons from incidents and process safety strategy can be distilled and shared across sectors; to influence our stakeholders (including the Regulator); and to drive the process safety management performance agenda.

### Recent Activities and News

- **Better Regulation Executive (CoMAH)**  
Stakeholder training is now being rolled out to duty holders to explain the changes. Read more here: <http://www.hse.gov.uk/comah/bre-review/index.htm>, or contact the PSF secretary.
- **Management of Change**  
Learning brief issued to share tips on auditing of Management of Change systems, see <http://www.p-s-f.org.uk/wp-content/uploads/011-PSF-Learning-Brief-Topic-Auditing-of-MoC-Systems.pdf>
- **New offshore safety directive from the European Commission**  
Developed in response to the Deepwater Horizon incident of 2010, for further information, see <http://www.hse.gov.uk/offshore/directive.htm>
- **Managing security in major hazard businesses**  
Read the latest security update from the Chemical Industries Association here: [http://www.p-s-f.org.uk/wp-content/uploads/CIA-Security-Avert\\_final.pdf](http://www.p-s-f.org.uk/wp-content/uploads/CIA-Security-Avert_final.pdf)

### What's next for the PSF?

- **Industry Guidance**  
Work with the Chemical and Downstream Oil Industries Forum (CDOIF) to develop high level guidance on Human Factors Improvement Techniques.



## Safety Messages

### Anniversaries

- It has been 30 years since the Bhopal disaster, and 40 years since Flixborough – both of which demonstrated failures in the management of major accident hazards
- See our latest learning brief – remembering the lessons from the HMS Glasgow fire of 1976. Download your copy here: <http://www.p-s-f.org.uk/7p=296>

### Taiwan Pipeline Explosion (Kaohsalung)

More information here: [http://en.wikipedia.org/wiki/2014\\_Kao\\_hsalung\\_gas\\_explosions](http://en.wikipedia.org/wiki/2014_Kao_hsalung_gas_explosions)

- Do you know the potential safety implications for buried LPG pipelines, particularly over long distances?
- Are you aware of other service networks (for example sewers) that may run alongside LPG pipelines?

### Man-Way door failure

- The importance of inspecting man-way door mechanisms, read more here: <http://www.p-s-f.org.uk/wp-content/uploads/010-PSF-Safety-Alert-Man-Way-Door-Failure.pdf>

For enquiries please contact the Process Safety Forum secretary or visit our website.

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[www.p-s-f.org.uk](http://www.p-s-f.org.uk)

# Sharing Learning

So far 37 Bulletins

**Safety Bulletin SB/383**  
nationalgrid

Learning from others:  
**SERIOUS INJURY FROM LIFTING CUSHION USED ON PIPELINE**

**WHAT HAS HAPPENED:**

- A welder working for Gasunie, in the Netherlands, on a 40" gas pipeline using air lifting cushions
- The welder was with a pipe fitter in a safe area with the air compressor adjacent to the cushions
- Two cushions (one on top of another) were inflated to lift the pipe.
- Once inflated, the welder left the safe area to inspect to confirm correct height had been achieved. At that moment, one of the air cushions ejected from underneath the pipeline, hitting the welder and pushing him against the barrier behind him and breaking his hip.



The ejected air cushion besides the pipe section it was supporting

**ACTIONS REQUIRED:**

- Project managers shall share the learning of this incident to all staff and contractors who use air cushion lifts.
- Where air cushions are used, risk assessments and method statements should be reviewed to ensure safe use of air cushions and suitable supports are included.

**KEY LEARNING POINTS:**

- There was a lack of restraints for the air cushions to prevent them moving sideways.
- No clear working instructions were available for the use of air lifting cushions.
- The incident was compounded by adverse weather and ground conditions which caused a temporary support to subside into the soil.

Issue Date: 17<sup>th</sup> June 2014  
Review Date: 16<sup>th</sup> June 2015

Issuing Manager/Department: Tony Stonehewer/ISSR  
Circulation List: Capital Delivery, GTAM, Gas D (Maintenance), ETAM  
For more information contact: Cor Box 07770 971171

**e-on**

Type of Alert	Plant Safety	
Distribution	ECRR, External	
<b>HSSE Alert</b>	Issue No	1
	Incident Category	2
Incident Potential	3	
Location, Date, Time of the Incident	22 <sup>nd</sup> January 2014 approx. 10:30	
Trade / Profession	Structural failure - no personnel involved	
Type of machine/plant	Rampion Offshore Met Mast, 13km from Sussex Coast	
Age of machine/plant	2 Years	
<b>Details of incident.</b>		
On the 22nd January 2014 E.ON were informed that the Rampion Met mast was no longer in position. The entire lattice structure, which had been inspected and maintained the previous month, was absent and all navigation aid systems were found to be out of service. Due to prolonged unsafe weather conditions and resultant damage caused to the access ladder and platform by the failure, E.ON access to the main deck to safely carry out any preliminary inspections was delayed.		
E.ON undertook an initial inspection of the platform during the week of the 10th March, identified that the mast has experienced structural failure between the met mast and the TP interface, further analysis is currently ongoing. Sonar surveys performed have indicated that the met mast is relatively intact and lays directly adjacent to the foundation.		



**Generationsafe**  
A new approach to safety

**HSEQ RED Alert Part 1**  
Sulphuric Acid Pipeline Leak

Location: Killingholme Power Station  
myHSE Event ID: 167417  
Date Created: 21/03/2014  
Author: Paul Scott  
Distribution: Thermal Power



**Details**

During a routine plant inspection at Killingholme Power Station, the stainless steel pipework which contained 98% sulphuric acid was found to have a leak on the bend prior to entry into the Cooling Water system.

The pipework was located above a non-restricted part of the Turbine Hall, and was at a height of approximately 8m. The spray from the hole resulted in a 'steady drizzle' cone approximately 1m in diameter.

This could have resulted in contamination of exposed areas of skin, light eye protection would be insufficient to prevent the acid entering eyes, and there could also have been a risk of inhalation of droplets/mist.

The pipework material was Stainless Steel 316L, 10mm o/d and 1.5mm wall thickness.

**Key learning points:**

1. Full investigation to be undertaken into the cause of the failure.
2. Area washed down thoroughly to neutralise acid.
3. System shut down and area segregated until further notice.
4. System pipeline to be replaced until further engineering changes can be implemented.

**Summary**

Failure (pinhole leak) of stainless steel tubing that was used to inject 98% sulphuric acid in the Main cooling water system at Killingholme Power station.

**Further information**

For more information, please contact: [Paul.Scott@centrica.com](mailto:Paul.Scott@centrica.com)  
Part two will be issued to share findings once the investigation is complete.



# UKOPA / Process Safety Forum

## Learning Brief

### 10 year anniversary of Europe's worst High Pressure Pipeline incident

On 30th July 2004 at Ghislenghien, Belgium – 24 people died, 120+ Injured when 1000mm dia high pressure pipeline ruptured.



Emergency services were attending and investigating a report of a gas escape at ~8.30am. Whilst they were on site at ~9.00am the high pressure gas pipeline ruptured.

Construction work on site involved levelling the ground using excavator which resulted in reduced cover above the pipe. The pipe was damaged during work (75% reduced wall thickness).



Prior to starting the work on the 16<sup>th</sup> July the construction company had contacted the pipeline operator, who located and marked the pipeline, however sometime between the 17th and 29th of July the pipeline was damaged.

During July the pipeline was operating pressure had been reduced to 50 Barg for maintenance and shortly before the 30th July the pressure was increased to 80 Barg.



Pipe section found 155m from the crater

#### Lesson learnt

1. When working near a pipeline then ensure advice and guidance provided by the pipeline operator is followed including fencing off and signage as required.  
  
For more information see - UK Onshore Pipeline Association <http://www.ukopa.co.uk/> and LineSearch- <http://www.linesearch.org/>
2. Any damage to a pipeline however small should be reported to the pipeline operator without delay so it can be assessed and repaired; even small damage to coating may lead to a failure over time.
3. Pipeline Operators should consider the frequency of surveillance visits to known construction work to ensure all protection measures are being applied correctly.
4. Emergency Plans for high pressure pipelines should include advice on exclusion zones and the pressure in a pipeline should not be increased if damage or a leak has been reported.

The Process Safety Forum has been set up to provide an industry association platform whereby initiatives, best practice, lessons from incidents and process safety strategy can be distilled and shared across sectors, to influence our stakeholders (including the Regulators), and to drive the process safety management agenda. The Process Safety Forum consists of representatives from UKPIA, TSA, CIA, OGUK, CBA, RSSB, ENA, ECIA, UKLPG, BAMA, EIG, UKOPA, SIVA and SDF. For further details contact: [PSF.Secretary@gmail.com](mailto:PSF.Secretary@gmail.com)



## Learning from the past



# PSAT 2012

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- BPA
- Eon UK
- ESSAR
- Greystar
- National Grid Distribution
- National Grid Transmission
- Northern Gas Networks Limited
- Sabic UK
- Scotia Gas Network 1
- Shell UK
- Total (Finaline)
- Wales and West Utilities