

Process Safety Working Group

Report to UKOPA February 2009

Tony Stonehewer

UKOPA/09/0018

Outline of Report

- Review of PSWG 2008 Work programme
- Process safety self assessment tool –
 - Overview
 - Summary of UKOPA benchmarking study
- PSWG proposals for future work

Tom Smith – Shell

Michael Thomson – Ineos

Jane Haswell – PIE

Kunal Aggarwal – National Grid

PSWG 2008 Work Programme

	Action	Status
i)	Develop self assessment questionnaire based on risk controls – PSWG joint development of 3 rd party interference module	√
ii)	PSWG members to complete risk control questions for all modules	√
iii)	Challenge and review risk control questions	√
iv)	K Aggarwal to develop excel-based PS benchmarking questionnaire and results reporting model	√
v)	PSWG members agree model and complete questions and scoring for incorporation	√
vi)	Pilot study – completion of questionnaire by PSWG members	√
vii)	K Aggarwal to analyse and present results for PSWG to review	√
viii)	T Stonehewer to present pilot study results and UKOPA rollout at UKOPA meeting	√

PSWG Benchmarking Questionnaire:-

- Web-based assessment tool has been developed
- The questionnaire has been downloaded and completed questionnaires have been submitted by 12 (out of 15) UKOPA members
- An initial assessment of results has been carried out by PSWG

Next few slides provide an overview of the model, its structure and give examples of the results.

PSAT Web Site Opening Page



Process Safety Assessment Tool 
Onshore Pipeline Operator's Association

Route Management ✓	Asset Records ✓
Operating Procedures ✓	Competence & Training ✓
Emergency Response ✓	Leadership ✓
3rd Party Interference ✓	Modification Repairs Process ✓
Maintenance, Inspection & Other ✓	Integrity ✓
Data Sheet	Graphs
Edit Profile	
LOGOUT	Submit Survey ✓

Risk Control	Key Issues
Route Management	Route survey, ground condition, land use
Asset Records	Design, construction, maintenance, access to information on critical assets
Operating Procedures	PTW, roles & resp, operation & control procedures, SCADA etc
Competence and Training	Resources, competence assessment of staff & contractors, training
Emergency Response	Resources, testing, liaison, equip & spares, communications, PERO
Leadership	Audit, closeout, incident investigation
3 rd Party Interference Management	Surveillance, supervision, marking & information
Mods & repair process	Repair & mods procedures, changes to design, defect management
Maintenance, Inspection, Other	Checks & maintenance, protective devices, hazardous areas, electrical
Integrity	Pipewall condition, corrosion mgt, AG pipework condition

PSAT Survey Example

[home](#) 100% complete 

Survey Form:

UKOPA

United Kingdom

PSAT

Integrity

Damage Assessment SCORE: 1 OUT OF 1

Do you have arrangements in place for the inspection and assessment of damage?

Your comments

↑
↓

No

Yes

Do you have approved repair methods, equipment and materials?

Your comments

↑
↓

No

Yes

LOGOUT

SAVE & PROCEED

UnitedPA

✓ Damage Assessment✓ Corrosion Management - External✓ Integrity Management

PSAT -Data Sheet Example:

[home](#)

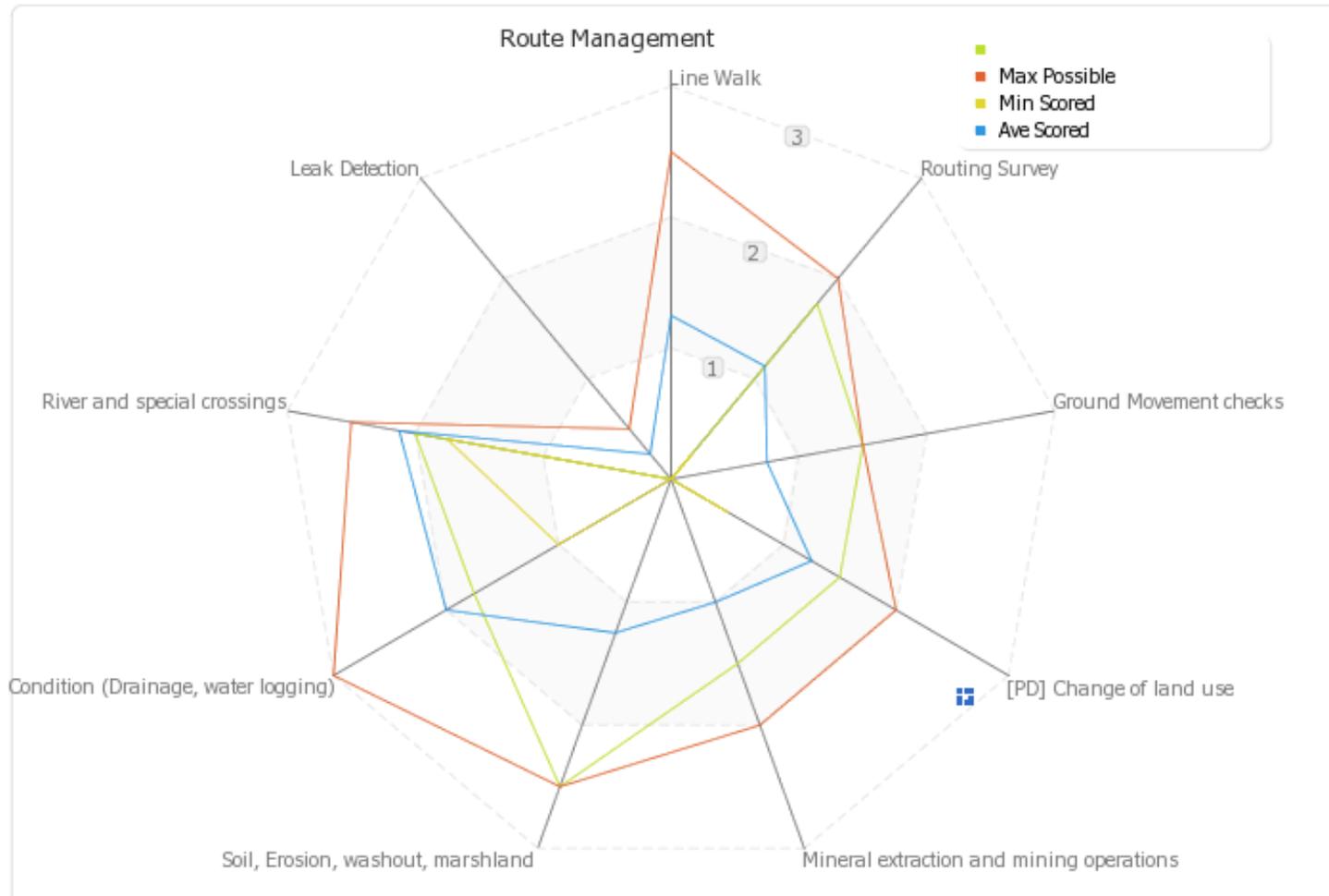
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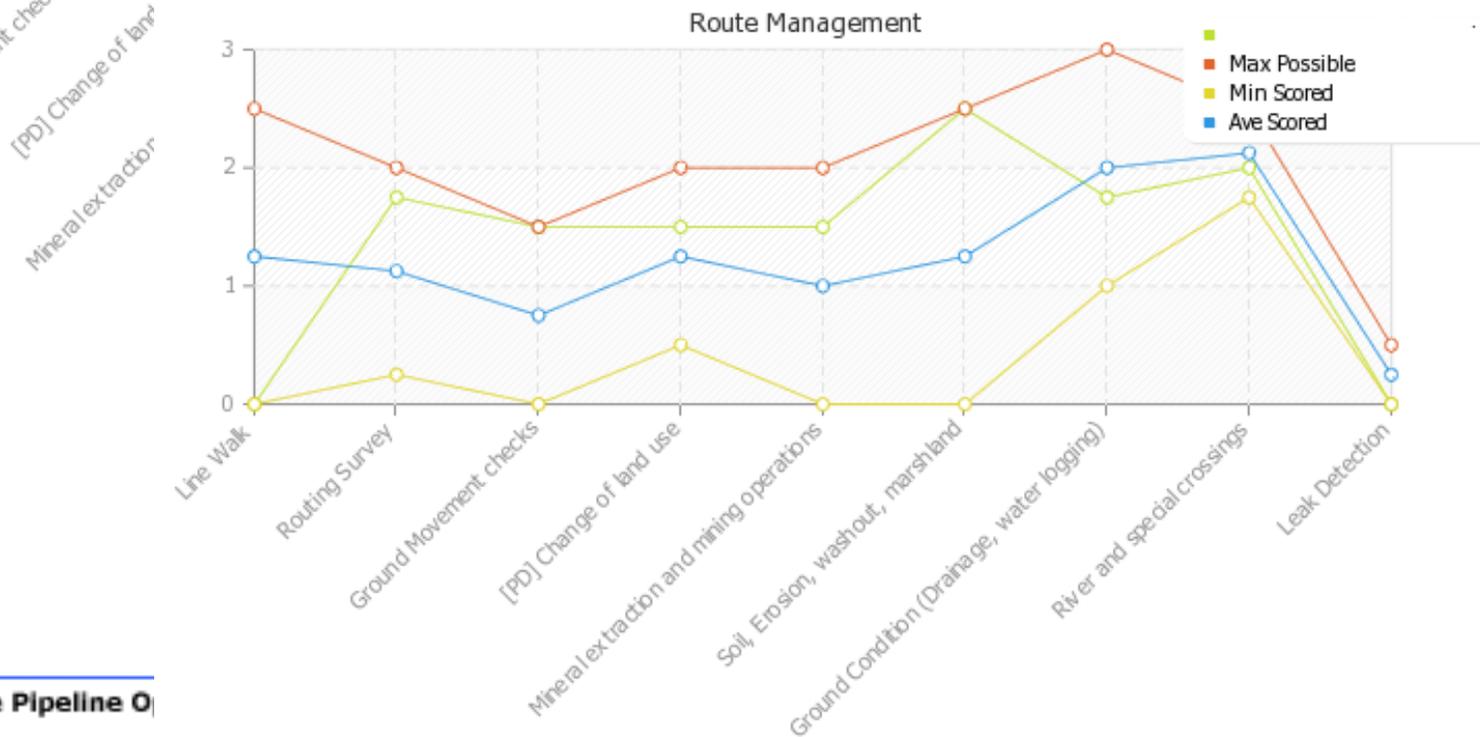
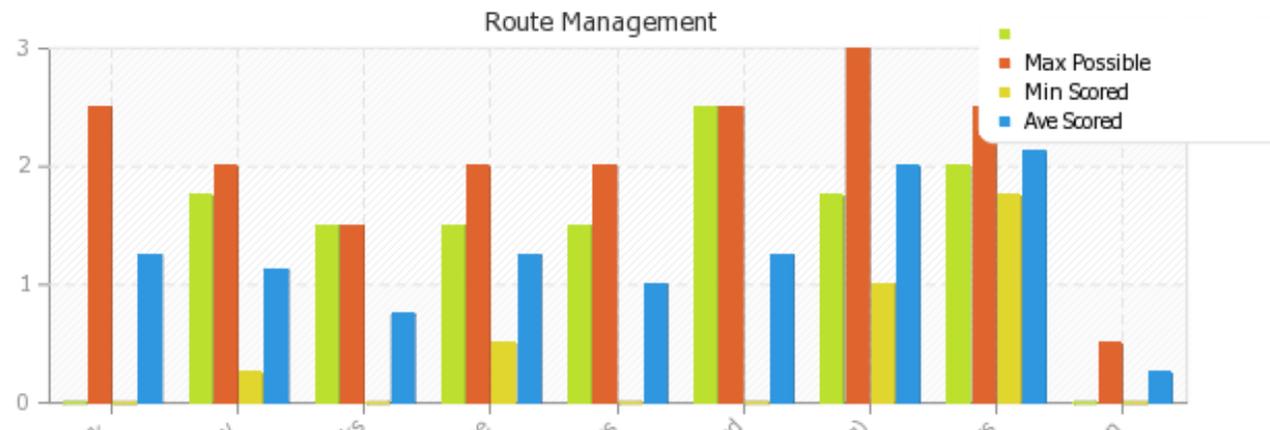
Datasheet

	Route Management	Min	Max	MaxP	Ave	Actual
Line Walk		0.00	2.50	2.5	1.25	0
Routing Survey		0.25	2.00	2	1.13	1.75
Ground Movement checks		0.00	1.50	1.5	0.75	1.5
Change of land use		0.50	2.00	2	1.25	1.5
Mineral extraction and mining operations		0.00	2.00	2	1	1.5
Soil, Erosion, washout, marshland		0.00	2.50	2.5	1.25	2.5
Ground Condition (Drainage, water logging)		1.00	3.00	3	2	1.75
River and special crossings		1.75	2.50	2.5	2.13	2
Leak Detection		0.00	0.50	0.5	0.25	0
	Asset Records	Min	Max	MaxP	Ave	Actual
Design & Construction		0.70	2.50	2.5	1.6	1.8
Maintenance & Operating Drawings		1.25	4.00	4	2.63	3.05
Operating Manuals		1.25	3.50	3.5	2.38	2.5
Availability / Accessibility of critical information		0.50	2.00	2	1.25	1
Maintenance Records		1.50	2.50	2.5	2	2.5
Asset Information		0.00	1.50	1.5	0.75	1.25
Operating Records (Pressure Cycles, Temperature, start / stop)		0.00	2.50	1.75	1.25	2.25
Results and Data - Inspection Data		1.00	3.25	2.5	2.13	2.25
Review & Update		0.00	1.50	1.5	0.75	1
Pipeline Records - GIS		1.50	3.00	3.5	2.25	1.5

PSAT Example Graphs (1)

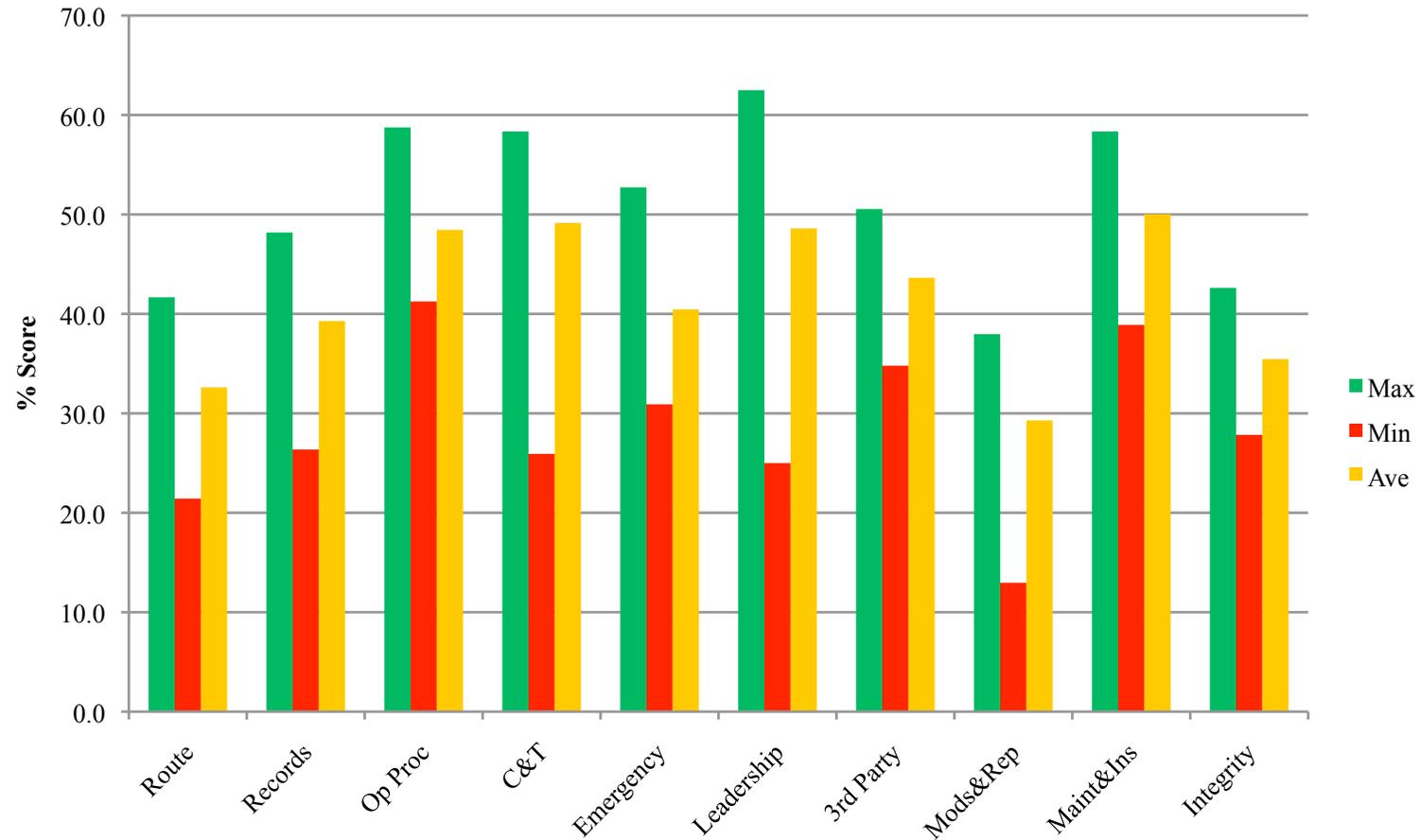


PSAT Example Graphs (2)

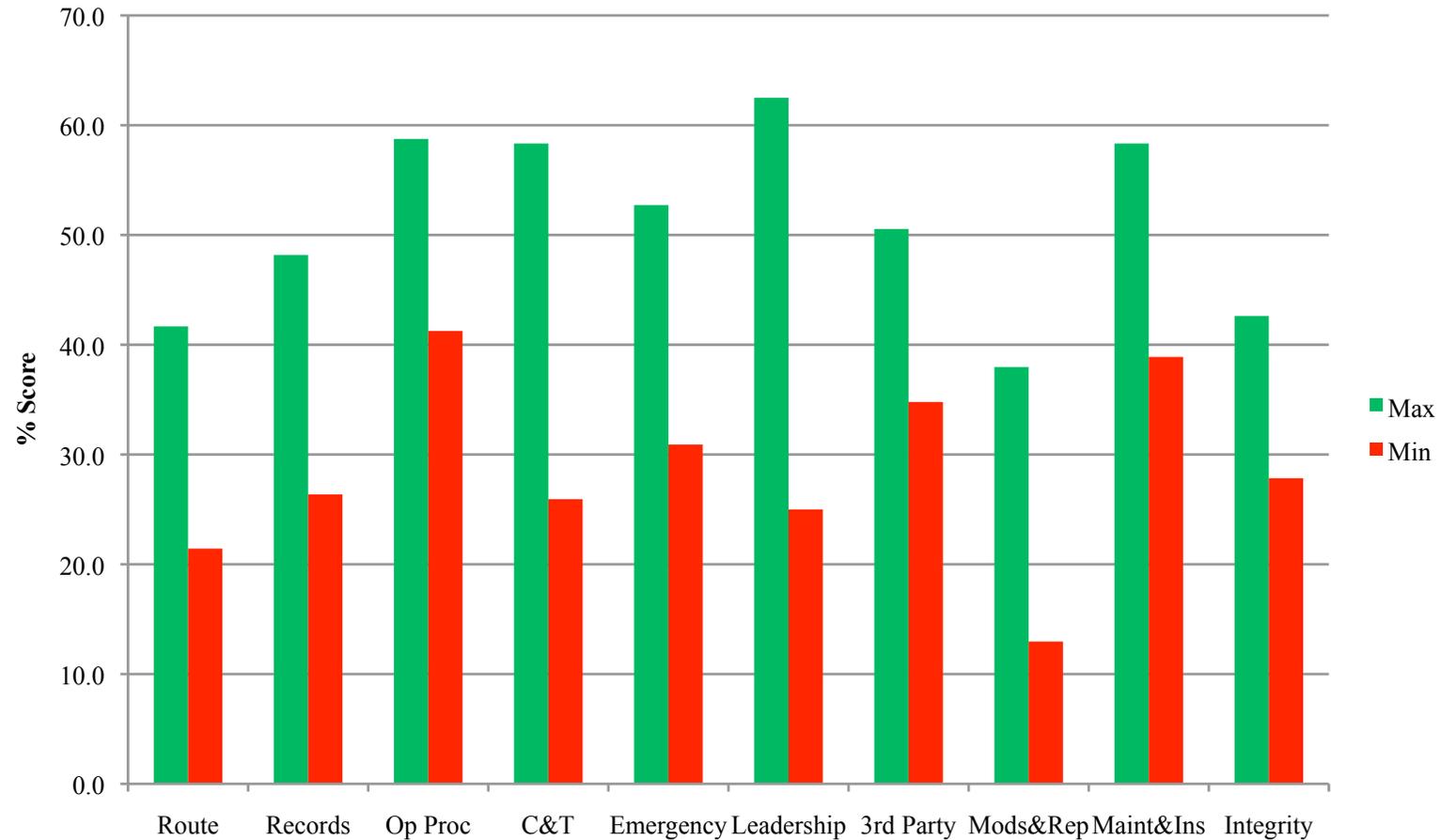


Risk Control	Max Possible	Max Score	Min Score	Score Range	Mean score	Ave Score
Route Management	42	17.5	9	8.5	13.25	13.7
Asset Records	55	26.5	14.5	12	20.5	21.6
Operational Procedures	40	23.5	16.5	7	20.0	19.38
Competence & Training	27	15.75	7	8.75	11.38	13.27
Emergency Response	55	29	17	12	23.0	22.25
Leadership	20	12.5	5	7.5	8.75	9.72
3 rd Party Interference	46	23.25	16	7.52	19.63	20.07
Modifications & Repairs Process	27	10.25	3.5	6.75	6.88	7.91
Maintenance, Inspection & Other	45	26.25	17.5	8.75	21.88	22.51
Integrity	44	18.75	12.25	6.5	15.5	15.6

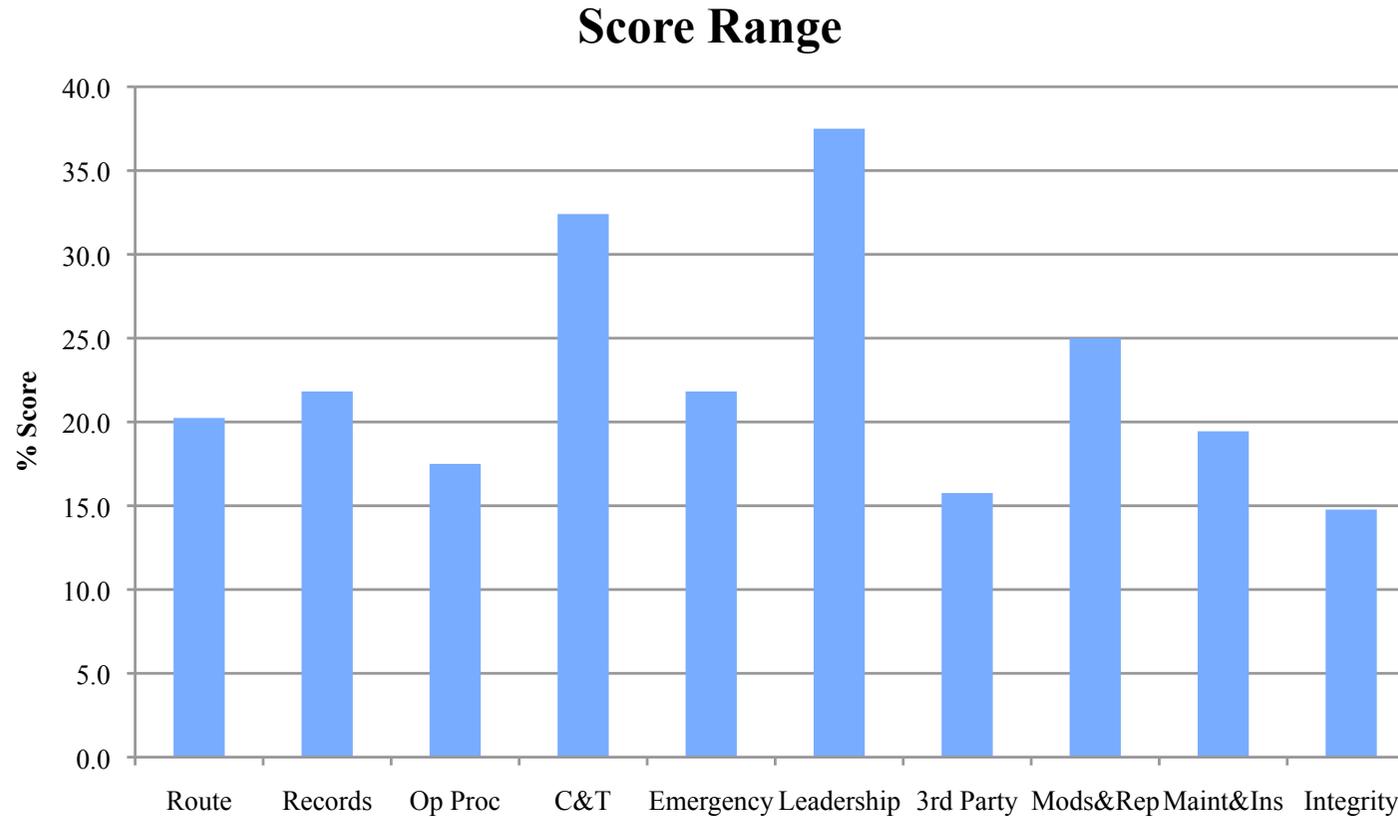
PSWG Benchmarking Questionnaire - Results



PSWG Benchmarking Questionnaire - Results



PSWG Benchmarking Questionnaire - Results



PSWG Benchmarking Questionnaire - Results

Observations:-

- There is generally an even spread between the maximum and minimum scores
- Maximum range in scores occurs for:-
 - Leadership
 - Competence and Training
 - Modification and Repair Process
- Risk Control areas have been prioritised based on the lowest maximum score and the maximum score range for further consideration

Risk Control	Comments	Prioritisation
Route Management	Low max score - opportunity to identify best practice	1
Asset Records	Influenced by age of asset	2
Operational Procedures	Reasonable variation, influenced by product	3
Competence & Training	Wide score range, key area, opportunity to identify best practice	1
Emergency Response	Influenced by product type (gas/oil)	3
Leadership	Wide score range, refer to Management Council	1
3 rd Party Interference	Low score range, consistency in practice	3
Modifications & Repairs Process	Key area, low max score, opportunity to identify best practice	1
Maintenance, Inspection & Other	Reasonable score range, review	2
Integrity	Low score range, consistency in practice	3

UKOPA Process Safety Questionnaire

Results - Observations

- Responses have been received from 12 UKOPA members
- 3 members have submitted more than 1 response
- 3 UKOPA members have not submitted responses
- The results need to be separated into gas and liquid pipelines
- The average scores are similar to the mean of the maximum and minimum scores – so the spread of results is even
- PSWG recommends that members with max scores in each risk control area are identified, so that any queries relating to best practice can be routed to these members

UKOPA Process Safety Benchmarking - Proposals

- Process Safety Benchmarking Report
 - Anonymous report on performance with the exception of Company with highest score for each category
- Publish the report on the UKOPA website
- Best Practice Workshop May 2009
 - Priority 1 risk controls
- Process safety benchmarking survey should be repeated every 2 years and improvements monitored

PSWG – 2009 Deliverables

1. UKOPA Process Safety Benchmarking Report – April 09
2. Best Practice Workshop – May 09
3. Develop process safety self assessment tool to improve usability – Dec 09
4. External publication and communication - ongoing