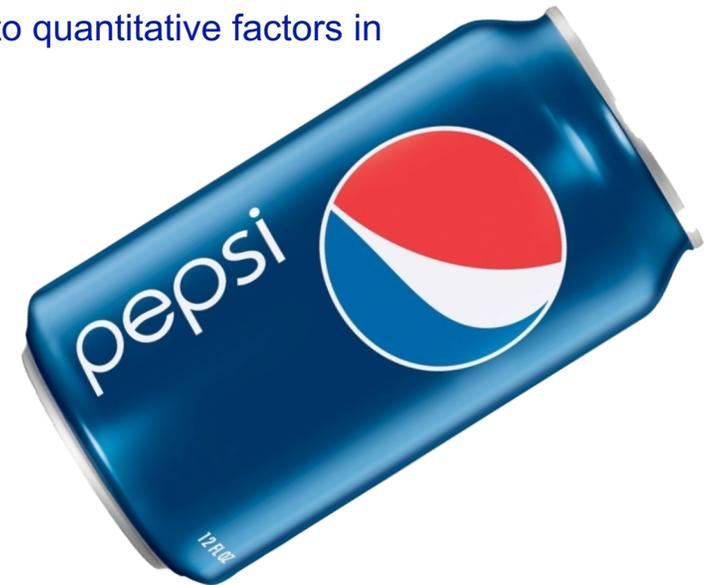




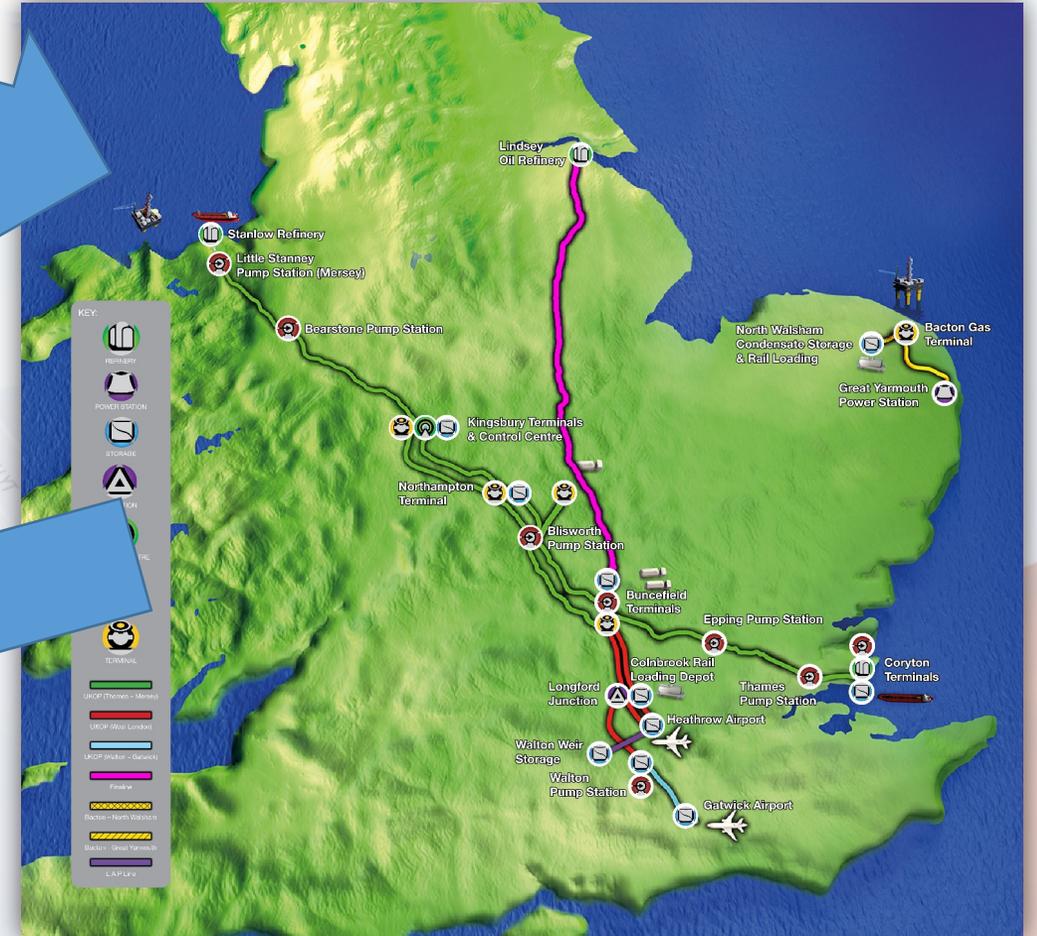
Human Factors Pipeline Control November 2019

“The soft stuff is always harder than the hard stuff”

Roger Enrico, Vice Chairman of PepsiCo, referring to areas like HRM as opposed to quantitative factors in Fortune, November 27th, 1995



HF expectations: a reality ?



24/7 Pipeline Operation

Movements & Scheduling
SCADA Pipeline Plant Operation
Co-ordinating Ingress and Egress Terminals

24/7 Storage Terminals Operation

SCADA Storage Terminals Operation (Buncefield)
QA Aviation Fuel to Airports

Pipeline Performance

Process Efficiency
Systems & SCADA Engineering

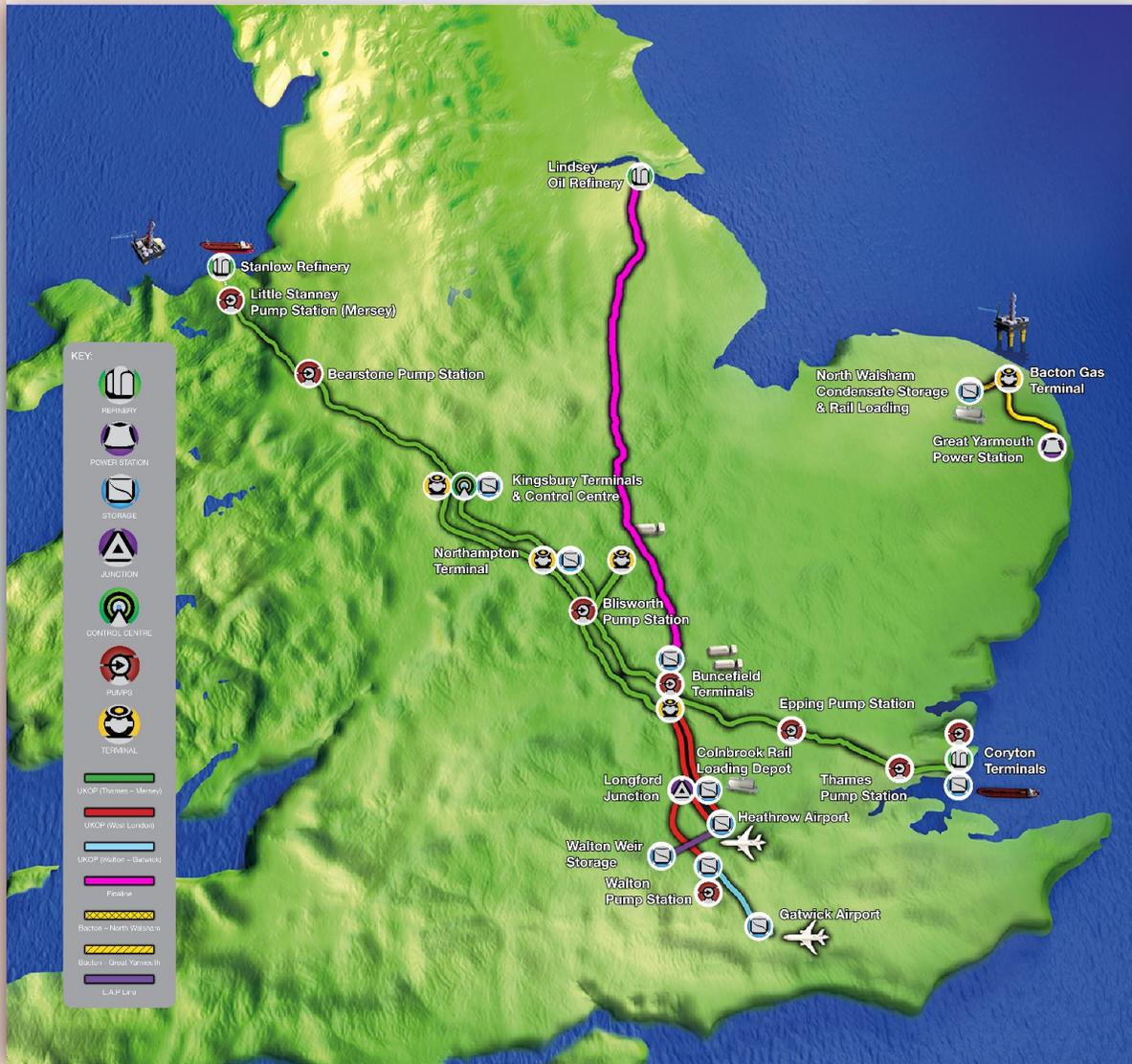
Emergency Actions

Pipelines
AGIs
Storage Terminals
Operations Staff

Human Factors

SCADA
Training & competency
Emergencies
Procedures & instructions
Shift teams

Reality for a Pipeline Control Centre



Ongoing activities include

- Alignment of SCADA Philosophies (Pipelines and Terminals)
- Alarm rationalisation & Alarm rates (EEMUA 191)
- Workflow assessment (Keil Centre)
- Workload assessment (Entec)
- Ergonomics and built environment (KCC 2)



Kingsbury Control Centre

15685 - 3D Perspective - Control Room Option 1 View A
17 August 2017

IKM, Park House, 39 Bo'ness Road, Grangemouth, Falkirk, FK3 8AN

Tel: +44 (0)1324 878 822

Email: info@ikmconsulting.co.uk

- ATMOS
- Historian
- UKOP
- WLWG
- Finaline
- PC
- GYPL
- LAP
- Ingress Overview Screen
- Egress Overview Screen
- General Use Screen

- 1 - 3 ATMOS Wave Screens
- 4 ATMOS Pipe Screen
- 5 - 6 Historian Screens
- 7 - 8 UKOP
- 9 - 10 WLWG
- 11 - 13 FINALINE
- 14 PC
- 15 - 16 GYPL
- 17 LAP
- 18 - 22 UKOP

- 23 - 25 WLWG
- 26 - 29 FINALINE
- 30 PC
- 35 FINALINE Printer
- 36 UKOP / GYPL Printer
- 40 Month End Duty Operator Console
- 42 Egress Overview
- 43 Ingress Overview
- 44 General Overview

The Impasse:

HSE HS(G) & EEMUA 191 alarm representation:

- There is a single prioritised list of alarms

Versus reality:

- Five SCADA systems of different platforms & vintage
- Different activities e.g. Leak Detection, Movements Accounting & Scheduling
- Distraction: routine site activities and visitors; non-routine emergency co-ordination
- Different people: 24/7 shift staff



- HSE

“...the parts that people play in protection, prevention, potential initiation and recovery to be addressed with the same degree of rigour that we traditionally expect for process and engineering issues.”



“The soft stuff is definitely harder than the hard stuff”

Be prepared!



Brand Re-versioning by
Graham Smith - imjustcreative.com

Round table debate:

1. What Human Factors Issues do you have within your own Pipeline Control Centres?
2. What are our (the industry) common issues?
3. Are the HSE being clear and consistent with their challenge to Operators?
4. What can UKOPA or other Members do to help?