Health and Safety
Executive

HSE

Oil and Gas UK Industry Conference

Health, Safety and the Environment

Regulator Challenge and Collaboration

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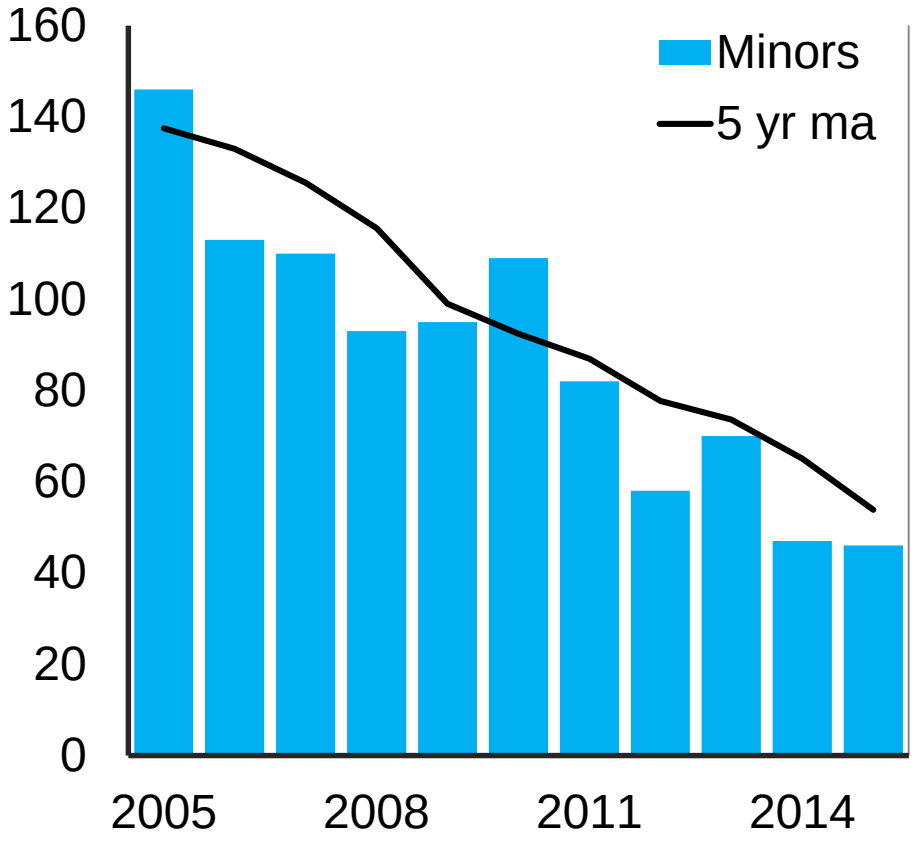
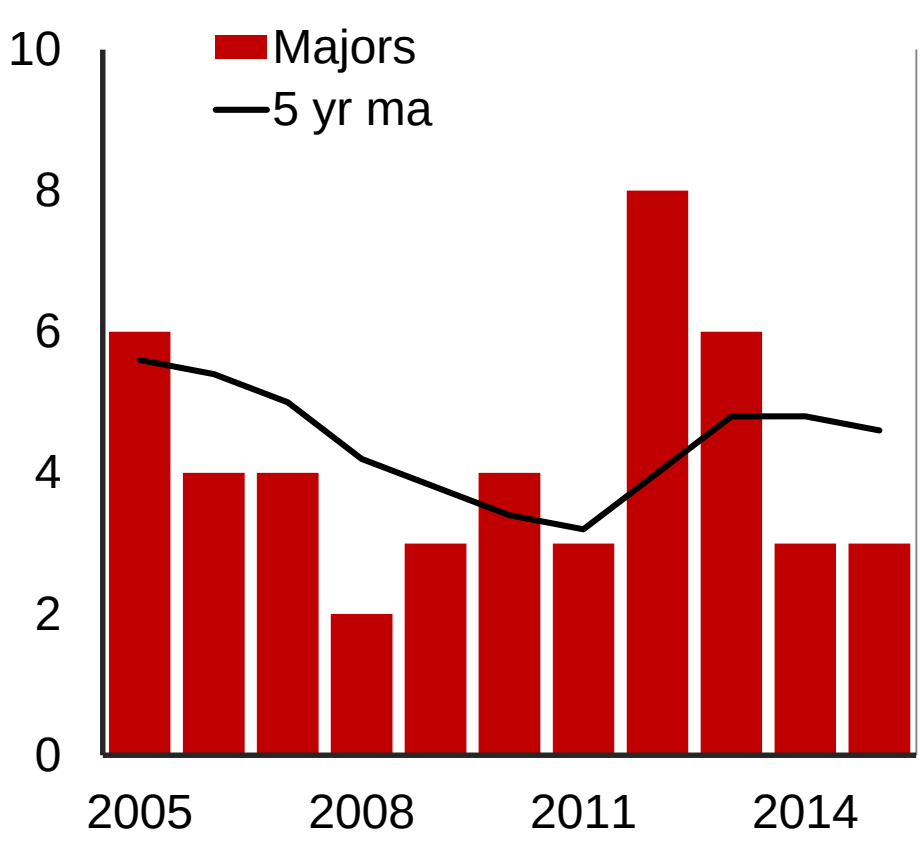
What are our Key Priorities

- Preventing major accidents associated with the loss of containment of oil and gas
- Managing the risks associated with:
  - ageing infrastructure;
  - failure of asset integrity;
  - offshore decommissioning activities
- Improving leadership, competence and workforce involvement

Major HCRs remains unpredictable





Asset integrity focus has reduced number of minor/significant HCRs...

…but not number of major HCRs

What is the Regulators role

- Apply regulations to promote and encourage safe operations.
- Ensure operators respond to those regulations (and work with the Regulator) to maintain ongoing safety.
- Regulatory Strategy is weighted towards Major Accident Hazards because:

  – *properly addressing MAH safety goes a long way to maintaining safe and efficient operations.*

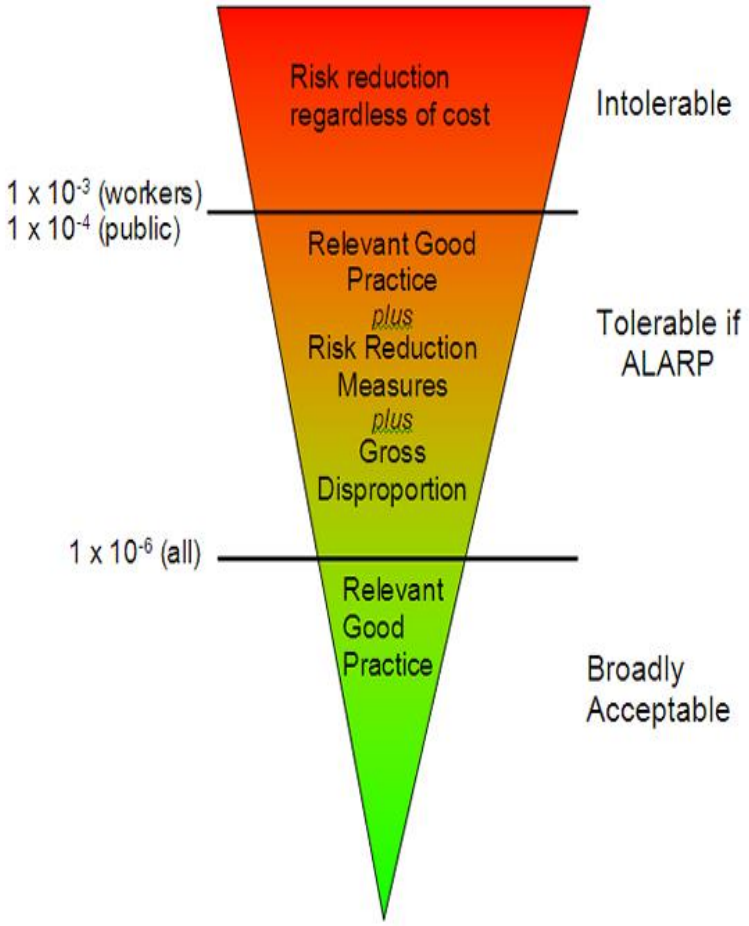
How we regulate Major Accident Hazards offshore

- Offshore legislation generally **‘goal setting’**
- Requires risk to be ‘as low as is “reasonably practicable’ or **ALARP**
  - Benefits: allows innovative and bespoke solutions, no one size fits all.
  - Challenges: requires deep understanding of hazards and controls, and sound judgement to make a robust demonstration

- To form Regulatory judgements we use:
  - SC assessment,
  - prioritised and targeted Inspections,
  - lessons form investigation
  - supported by EPS, EMM, SC assessment templates, Inspection Guides and industry standards

Goal setting - what does it mean?

- **To make the case for safety the DH has to demonstrate they have:**
  - identified hazards
  - carried out effective risk assessment
  - implemented effective risk control,
  - 'barriers' in place to reduce risk to ALARP



Making the case for safety

- Safe operation and good business are not mutually exclusive
  - Safe operation is integral to a well managed high hazard business – it is not an add on

- Protecting the asset and the workforce amounts to the same thing
  - Major hazards safety should be seen as an investment rather than a cost

- HSE support approaches that lead to safe growth with safe operations
  - Innovative approaches are supported, provided you can demonstrate effectiveness

Challenge / Collaboration

- Examples:
  - Composite repairs
  - Mooring guidance
  - Walk 2 Work
  - Heli-decks

Composite repairs

- Application of carbon fibre composite repairs to 30” gas export header (approx 100barg). External corrosion took pipework below minimum allowable wall thickness in 17 areas.
- HSE robustly challenged the DH and the repair supplier in terms of the repair design, installation quality, long-term integrity, fire performance, inspectability etc.
- DH was able to demonstrated their proposal was justified from an engineering and regulatory perspective and complied with the then draft standard ISO 24817.
- Justification as to why replacement was not reasonably practicable was also provided - they were able to make the case for safety.

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Composite repairs

- HSE accepted the DH case and the repairs have operated safely and successfully.
- Ongoing dialogue regarding long-term integrity demonstration between regulator and DH.
- More widely, this work has been used to influence the ISO standard on the integrity of composite repairs, and a current HSE / industry project is underway to further improve understanding of the integrity issues associated with the use of such repairs.

Mooring guidance

- HSE identified that there were wide variations in the approaches taken by Dutyholders to mooring integrity (following major FPSO mooring failures in UK and Norwegian waters).

- To address this HSE:
  - focused on the design of mooring systems,
  - considered changes instituted in the Norwegian North sea
  - produced consolidate guidance on Offshore Mooring Systems.

- However Drilling sector highlighted that, based on failure statistics, operational issues were the primary driver for MODU mooring failures.

Mooring guidance

- HSE worked with IADC and BROA, revising the Guidance to:
  - take account of the specific nature of the mobile offshore industry segment,
  - rationalise the design and operational maintenance requirements for MODUs based on the risk and consequence of a mooring failure.
  - use the latest ISO Standards in place of legacy codes and
  - institute additional robustness checks over to ensures safety in the harsh North Sea environment
  - maintain parity with the wider North Sea on minimum design expectations.

- Guidance has support of the industry and delivers the flexibility required by the operators while reducing the MAH potential from a mooring failure.

Walk2Work / Attendant Vessels

- Use of W2W vessels originally in SNS but with enhancement of gangway systems together with larger vessels usage is widespread.
- Many O/S installations have comparatively low resistance to accidental collision energy levels, typically 4-6 MJ.
- Operators have been opting for larger gangway systems and project vessels to increase the ‘up time’ for an intervention.
- Concerns regarding increasing potential accidental collision impact energy levels.

Walk2Work / Attendant Vessels

- Recognition that increase of installation capacity to withstand accidental collision impact energy is generally impracticable.
- It is not acceptable for Dutyholder to abdicate all responsibility to the vessel Master responsibility rests with the Duty Holder
- HSE has worked with individual DHs and Industry (MSF and Step Change) to develop enhanced marine control measures and ensure these are in place.

Military- style" helideck

- Application for new design of offshore helideck (new to UKCS) – CAP437
- HSE and CAA working together to ensure regulatory requirements met
- Challenge – HSE WAH Regulations (unprotected edge at height)
- HSE consultation with Construction specialists to satisfy regulatory requirements
- Goal-setting regulation allows for innovation

Consistency

- Consideration within Teams
- Consideration within Units
- Peer Reviews
- Owners of Inspection Guides
- Regulatory Decision Making Audits
- Internal Audit

COMAH Challenge Mechanism

BRE Review of Chemical industry

- Stage 1- Review by Line Manager
- Stage 2 – Senior Operations Manager
- Stage 3 – Considered by Independent Regulatory Challenge Panel (ICRP)

COMAH Challenge Mechanism

Stage 1 Review by Line Manager

- Ensures Operator understands action
- Checks legal basis for the action
- Checks standards for compliance
- Information collected that provides evidence of Operator's non compliance
- Decision with supporting justification provided quickly

COMAH Challenge Mechanism

Stage 2 Senior Operations Manager outside line management chain reviews decision with input from industry

- Can approach Trade Association (TA) for advice / support
- TA use normal network / communication routes to gather info relating to challenge
- If TA supportive will provide this information to Senior Operations Manager

COMAH Challenge Mechanism

Stage 3 Challenge Considered by IRCP

- IRCP provides independent means for operator to challenge actions of HSE
- Scope of IRCP extended to consider COMAH environmental challenges
- IRCP will consider both views and bring in external expertise to make recommendations
- CA takes seriously recommendations and will consider amending regulatory decision

COMAH Challenge

- Evaluation: No take up of COMAH Challenge Mechanism.
- Clarifications of actions take place between CIM and operator short of a challenge and not recorded. (Stage 0?).
- TA’s say low number take place outside the formal Challenge Mechanism. (Stage 0?)

COMAH Example

- Double bottomed tank floors constructed to API 650
- API 653 allows inspection interval up to 30 yrs
- Buncefield cautioned against use of such tanks. Concern from industry.
- Commissioned SD to revisit failure data and failure modes.
- CA determined not sufficient evidence to enforce improved inspection interval