

Expertise. Innovation. Value.

AMOG is a leading global solutions provider to the energy, resources, defence, rail, and maritime construction industries.

Is the industry rushing towards a safety fallout?

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We solve complex, challenging engineering problems... anywhere in the world

> Marine & Offshore Engineering

- Concept development
- Mooring design
- Export systems & pipelines, etc.

> Technical Safety

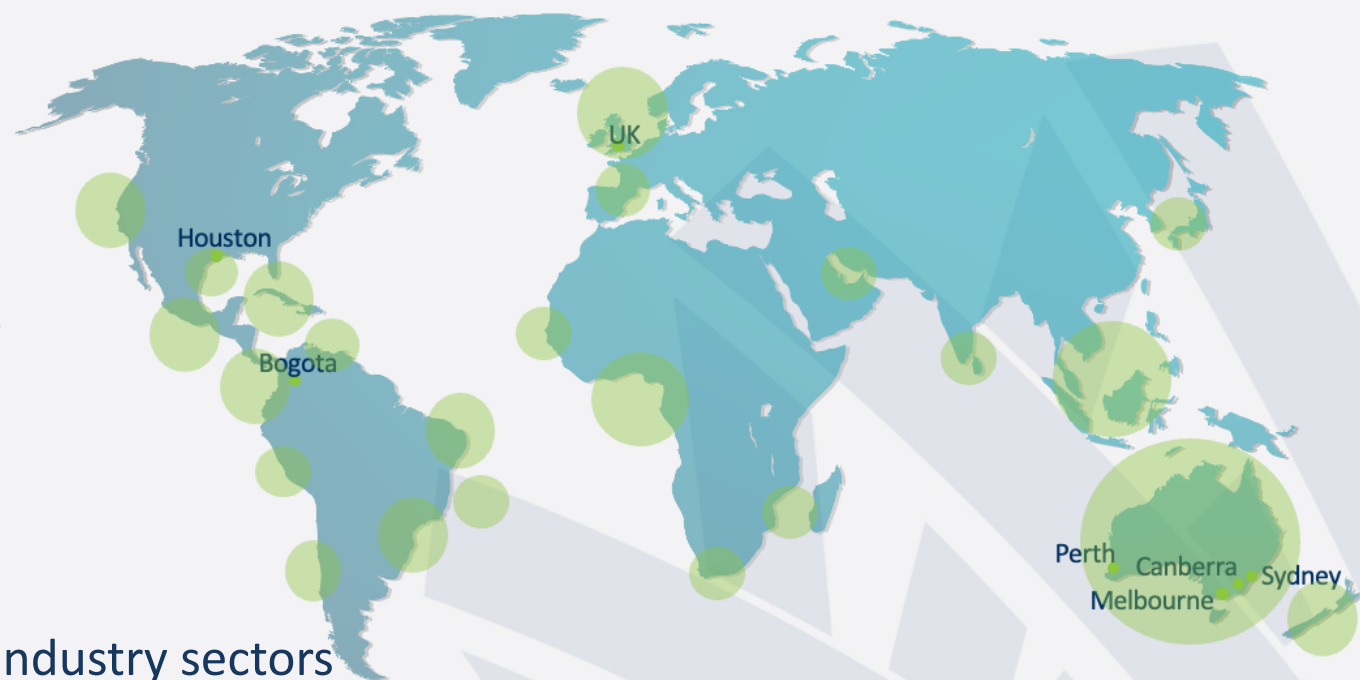
- Formal safety assessments
- Safety Cases for Major Hazard Facilities
- Quantitative risk analysis (QRA), etc.

> Structural Engineering

- Condition monitoring
- Failure analysis & investigation, etc.

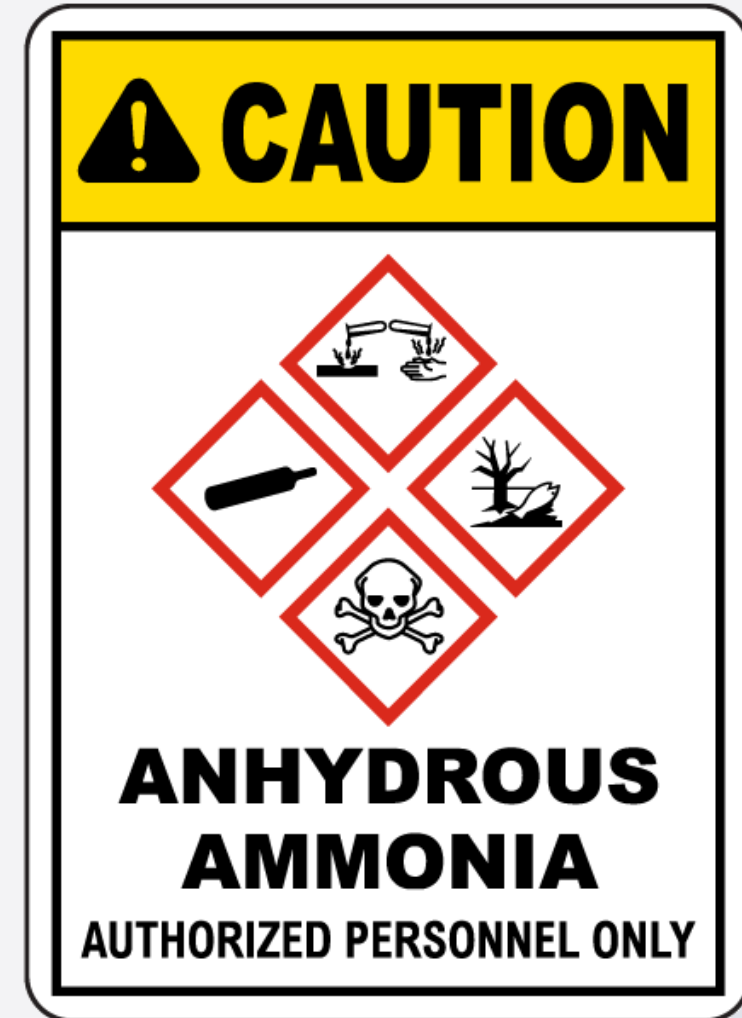
> Unique mix of skills, experience & industry sectors

- Offshore & Marine
- Onshore processing facilities
- Ports



Heightened interest in Ammonia as a clean fuel / Hydrogen carrier

- > H331 - Toxic if inhaled
- > H400 - Very toxic to aquatic life
- > H221 - Flammable gas
- > H280 - Contains gas under pressure; may explode if heated
- > H314 - Causes severe skin burns and eye damage
- > EUH071 - Corrosive to the respiratory tract



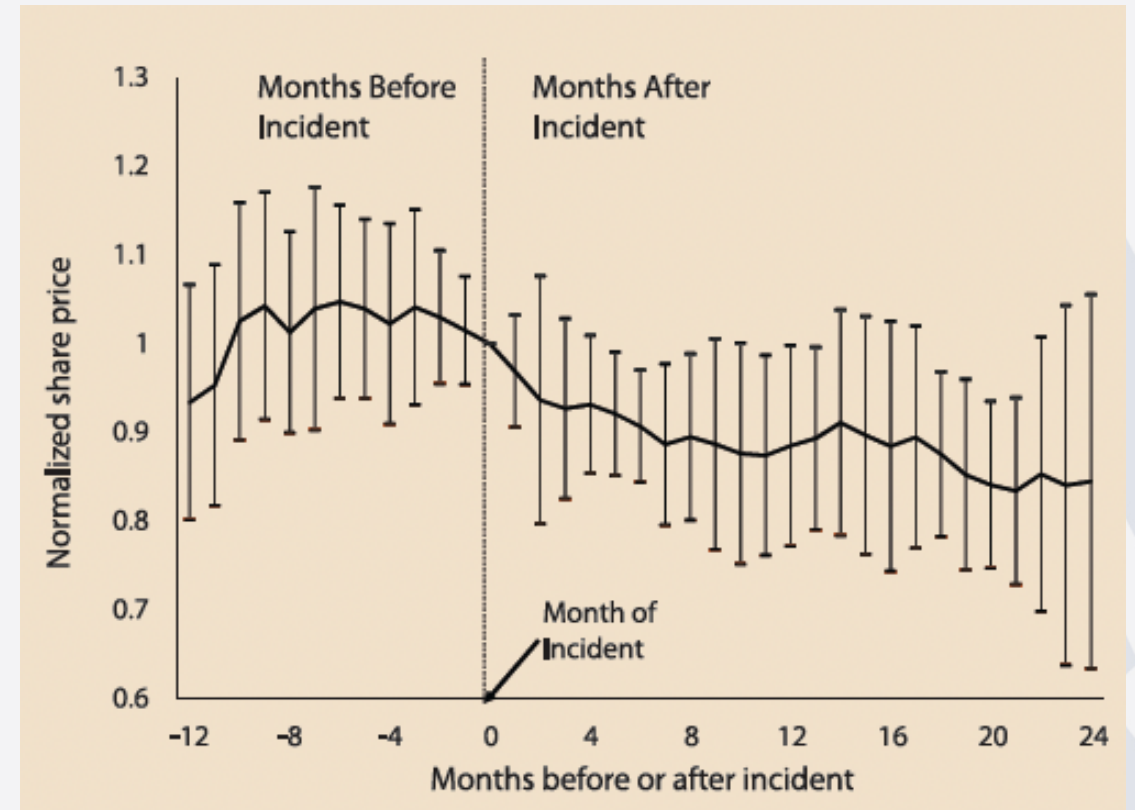
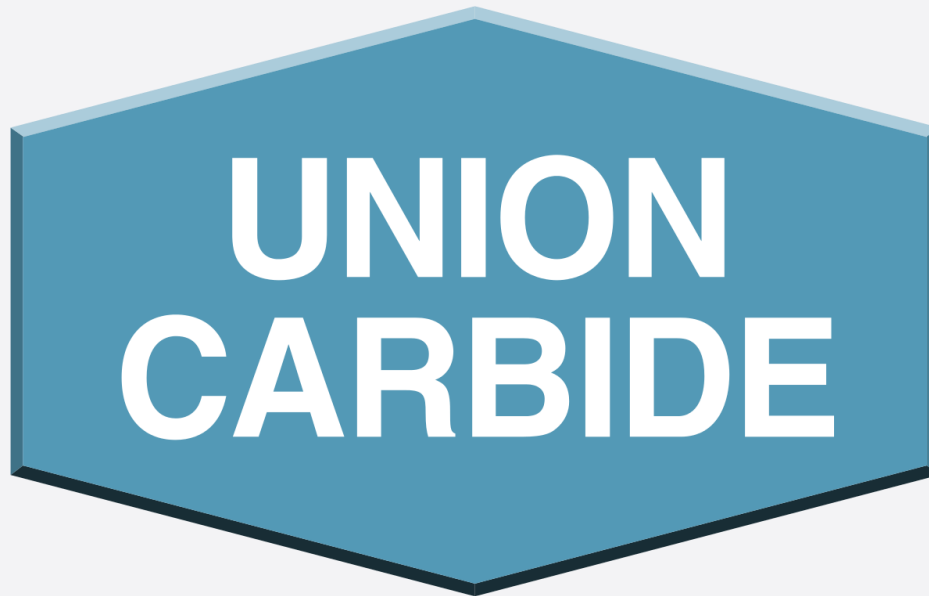
An industry in a rush



Bottom dollar price



Incidents significantly affect companies
(when they survive it)



Share price compared to month-end before incident
(data from Germany, India, Japan and USA), (CCPS, 2018)



DEPARTMENT OF ENERGY

The Public Inquiry into the Piper Alpha Disaster

The Hon Lord Cullen



Market forces

Market Ideology - Privatisation

Merger of OHS and compensation agencies

Government failure to provide alternative gas supply

LESSONS FROM LONGFORD

The Esso Gas Plant Explosion

**ANDREW HOPKINS**

4491

Incidents affect the entire industry (contd.)



Words for the wise

- > You're a champion for the hopes of future generations
- > Plan before you act
- > Check, verify and validate
- > Be bold, but conservative
- > When uncertain, analyse and risk assess
- > When in doubt, be cautious
- > When in a rush (time or money), step back and review your values
- > Prove it's safe, not unsafe

Engineering solutions



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