RAS

Safe | Smart | Sustainable

Buncefield

20 Years on – What have we learned?

5 days
taken to put out fire

Largest
peacetime explosion in Europe

43
people injured

125 miles

the explosion could be heard in Belgium, the Netherlands and France

14 years
taken for BPA to return to operations

20 years
groundwater monitoring ongoing

25
fire engines & 20 support vehicles

+

180
firefighters present at peak times

750,000
litres of foam needed to control the fire

55 million
litres of water used

2000
people evacuated from homes

PFAS
‘forever chemicals’ found in high concentrations in soil & water

5km

of drains had to be surveyed

35,000

litres of fuel recovered by **15,000** tankers

70,000

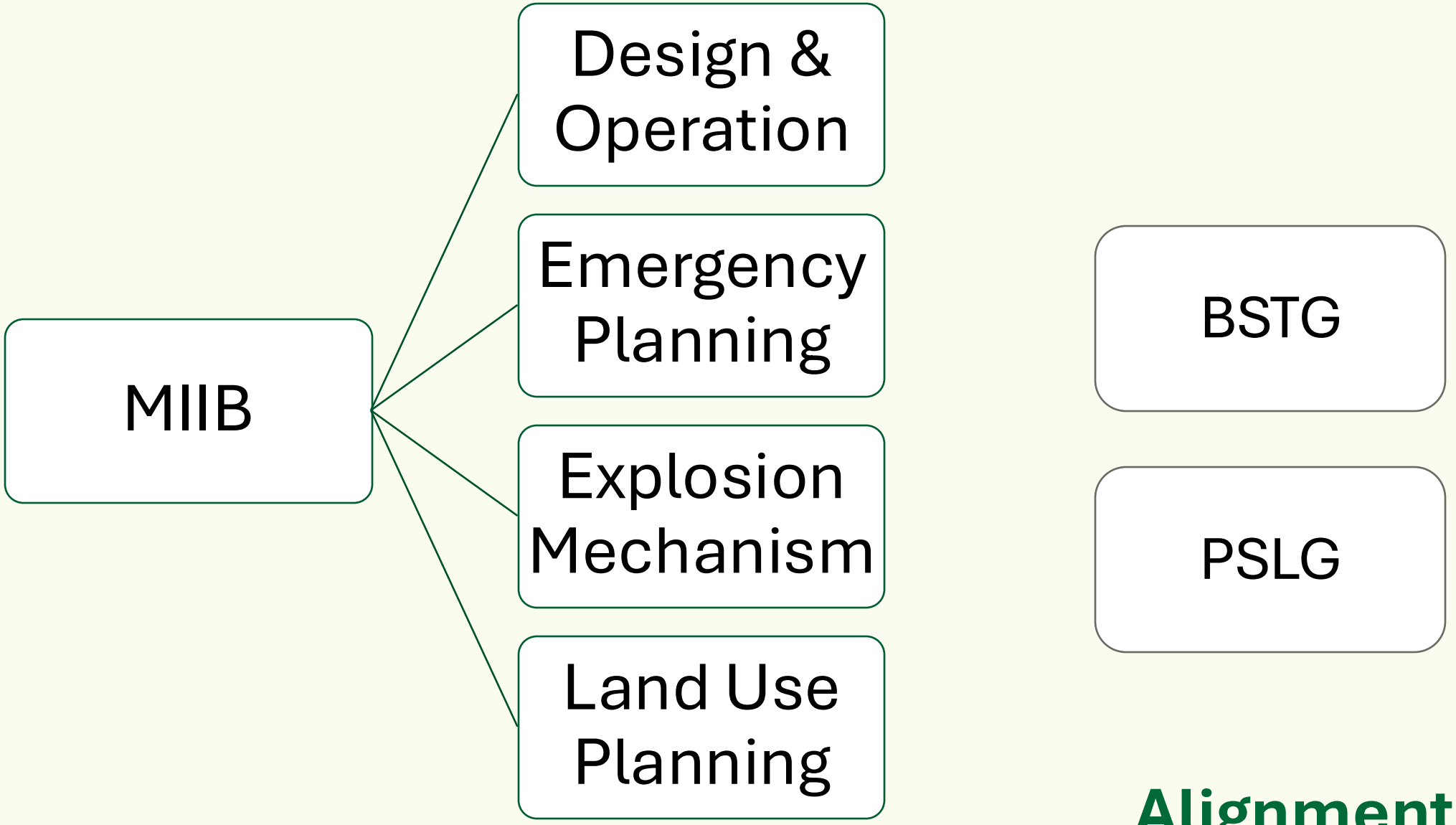
tonnes of contaminated waste (soil)

£300,000

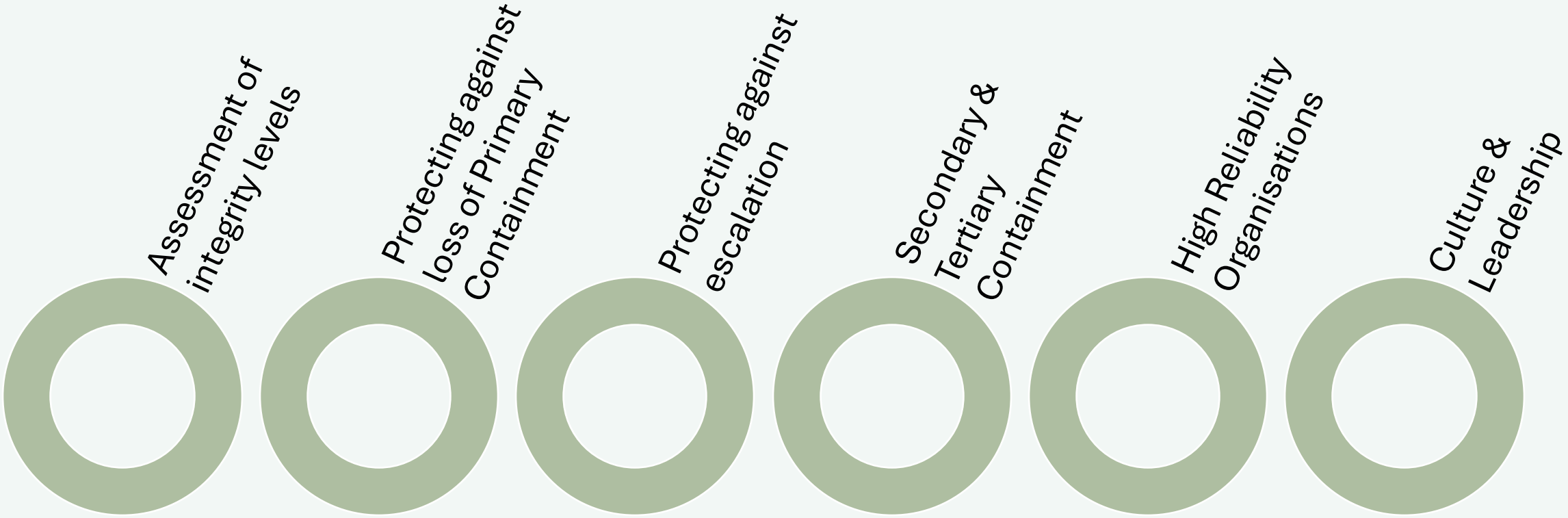
fine given to BPA for environmental impact

Over £1 Billion

economic impact


MIIB
Design & Operation
Emergency Planning
Explosion Mechanism
Land Use Planning
BSTG
PSLG
Alignment

PSLG - Recommendations for Design & Operation



RAS

Safe | Smart | Sustainable

Assessment of Integrity Levels

- SIL Determination
- LOPA
- QRA – **New CDOIF MH3RA guidance currently in stakeholder review**

Primary Containment

- Functional Safety Management – Proof testing **(tank side solutions)**
- Tank Inspections EEMUA159
- Maintenance Management & Records
- Safety Critical Equipment **(tags)**

RAS

Safe | Smart | Sustainable

Escalation

- DSEAR
- Survivability of emergency equipment
- **Overflow to ground**

RAS

Safe | Smart | Sustainable

Secondary & Tertiary Containment

- Bunds **(bund walls) (tertiary containment walls)**
- **CFD modelling for bow wave**
- Drainage
- **Fire water pond**
- **CDOIF Environmental Risk Assessment – Revision underway**
- **CIRIA 736 – new edition on its way**

RAS

Safe | Smart | Sustainable

Emergency response

- Fire water pond and used fire water pond
- Foam treatment
- Firewater take off points from bund

RAS

Safe | Smart | Sustainable

High Reliability Organisations

- Roles & responsibilities
- Training and competence
- Alarm management
- Staffing arrangements
- Handover
- Organisational Management of Change

RAS

Safe | Smart | Sustainable

Culture & Leadership

- PSPIs
- Continuous improvement
- Sharing learnings
- **Process safety training**

- **New threats - Natech**

RAS
Safe | Smart | Sustainable

- Process safety forum
- P-S-F2.org.uk

- **Managing risk the hazards that destroy your business**

- COMAH strategic forum
- Industry associations

PSLG Principles of Process Safety Leadership (2025)

The Process Safety Leadership Group (PSLG) is committed to improving process safety in the industries we represent. We believe that to achieve this, industry leaders have a critical role to play and must commit to establishing the following principles of process safety management in each business:

Principles

- Clear and positive process safety leadership is at the core of managing a major hazard business and is vital to ensure that risks are effectively managed.
- Process safety leadership requires board level involvement and competence. For companies with boards located outside the UK then the responsibility to show this leadership rests with the most senior UK managers.
- Good process safety management does not happen by chance and requires constant active engagement.
- Board level visibility and promotion of process safety leadership is essential to set a positive safety culture throughout the organisation.
- Engagement of the workforce is needed in the promotion and achievement of good process safety management.
- Monitoring process safety performance based on both leading and lagging indicators is central to ensuring business risks are being effectively managed.
- Publication of process safety performance information provides important public assurance about the management of risks by an organisation.
- Sharing best practice across industry sectors, and learning and implementing lessons from relevant incidents in other organisations, are important to maintain the currency of corporate knowledge and competence.

https://www.chemical.org.uk/wp-content/uploads/2018/02/PSLG_final_2.pdf

https://www.icheme.org/media/10706/buncefield-report.pdf

https://www.fabig.com/media/tpuaseey/buncefield-incident-miib-final-report-volume-1-dec2008.pdf

https://www.icheme.org/media/13708/buncefield-miib-final-report-volume-2b.pdf

https://www.icheme.org/media/10697/safety-and-environmental-standards-for-fuel-storage-sites.pdf

https://www.icheme.org/media/10696/buncefield-explosion-mechanism-advisory-group-report.pdf