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The Work of Hazardous Installations Directorate

Purpose of the paper

1. To provide an overview of the work of HSE's Hazardous Industries Directorate (HID) in regulating non-nuclear major hazard activities.

Background

2. The major hazard banner covers a wide range of industries – offshore oil and gas, onshore chemicals and petro-chemicals, pipelines carrying hazardous substances, mines, explosives and biological agents. All have the potential for catastrophe to the workforce, neighbouring communities and the environment. Some have the potential to disrupt activities which are key to the economy. For historical reasons much of our land-based major hazard industries were established near to an available workforce or employment attracted people to live near to the facility. This gives rise to a legacy of residual off-site risk. The major hazard pipeline infra-structure runs close to and through densely populated areas or major transport routes, again giving rise to a proximity risk.
3. The Buncefield fire and explosion and, more recently, incidents at the Chevron refinery (4 deaths after an explosion), Gleision (4 deaths from the inrush of water at a drift mine) and Elgin (uncontrolled major gas release from a North Sea platform) are reminders that these risks are real and current.
4. Recent years have seen some notable progress in the management of major hazard risks. For example, the cross sector, industry led work on developing process safety leadership guidelines, the work of some companies in developing robust frameworks of safety performance indicators, the progress made offshore in getting to grips with asset integrity and its Step Change programme all fall into this camp.
5. However, major accidents still happen and published reports on these incidents suggest that lessons have not always been learned. It sometimes seems that we have new people repeating old accidents. This is supported by data on precursor events that could have led to major accident. Whilst progress has been made on offshore hydrocarbon releases, onshore precursors have remained broadly static at approximately 125 per year over the last five years. Furthermore, HID inspectors still routinely raise a significant number of issues of non-compliance – some 3,518 in 2011/12 leading to 317 enforcement notices (211 improvement and 106 prohibition notices) and 18 prosecutions. Our assessment of industry's performance against the priority measures for control of major incident risks is also of concern. For example, plant ageing affects a high proportion of major hazard

sites and is a prominent feature in many loss of containment incidents. We have recently found that a large number of sites subject to the Control of Major Accident Hazards Regulations need to improve the way they manage and control this risk.

6. The structure of the HID sectors has changed significantly in the last 20 years or so. Whilst each sector has its unique history, the broad common themes of structural change over this time have been:
 - a. Fragmentation – there are now many more smaller entrepreneurial companies without the back up of extensive in house technical resources;
 - b. Globalisation – many of the major companies operating across the sectors are wholly or in part foreign owned, making it harder to identify and engage with key decision makers;
 - c. Financial constraints and competition leading to, for example, the closure of some refineries to be replaced by storage facilities and a move from bulk commodity chemicals to niche speciality products.
7. Annex 1 provides pen portraits about the sectors HID regulates. Annex 2 sets out HID's resources and structure.

Argument

8. HID's sectors are diverse but they share some common features. Our approach, both externally in trying to frame the debate on major hazards and internally in devising intervention strategies, is to look for the core themes and identify intervention strategies that promote sustained change. A key element of this is sharing knowledge within HID and encouraging industry to share with each other examples of good practice that they are capable of delivering. The paper therefore sets out what we have identified as these core themes and then explains our strategic, policy and operational response.

Core Themes

9. **Leadership** is important across all sectors but is vital in a major hazard context. As well as allocating resources and priorities, it helps shape culture within which management and workers exercise their discretion and judgement. A frequent finding of major accident investigations is that top management were not sufficiently focused on key risks. It is also the leadership in organisations that determines how far, and to what quality, the workforce are properly engaged in health and safety, another key ingredient of high performing organisations.
10. **Safety performance indicators (SPI)** are a core component of a safety management system. This is particularly true in major hazard industries where even minor deterioration in key controls are often not obvious and can give rise to serious consequences. Organisations need them at all levels, including at the top. Boards need to be able to answer the fundamental

question - how do you know you are managing your risks effectively?
Answering this requires a suite of leading and lagging indicators which focus on process safety risks. A frequent finding of major accident investigations has been that top management were taking assurance about risk control from lagging indicators on conventional health and safety that told them nothing about process safety risks. This fed an attitude of corporate complacency rather than a more critical and healthier attitude of corporate vulnerability.

11. **Competence management** has a heightened importance at a time when the workforce is ageing, experienced staff are retiring and businesses are de-layering and relying increasingly on contractors to provide key services. Knowledge transfer, rigorous competence assessments and intelligent customer capability are all essential in this environment. So too is competence in the Boardroom. Having sufficient awareness and knowledge of the fundamentals of process safety available to a Board enables informed debate which allows the full implications of decisions to be taken into account.
12. **Asset integrity** is central to avoiding loss of containment and is at the heart of major accident prevention. Ageing plant working in tough environments requires effective day-to-day management as well as the right long term investment decisions. It is a long established and well-known issue, but the evidence points to some sectors continuing to struggle with it. For example, a lack of investment in North Sea assets around the turn of the century at a time when the oil price was low and the prevailing perception was that North Sea production was on the way out, led to plant integrity problems that has taken, and continues to take, major efforts from the industry and HSE to redress. The offshore sector has made significant progress on this issue but recent data collected by HID at onshore chemical sites suggest that a significant number of them still fall below an acceptable standard of asset integrity management. At the other end of the spectrum, growth in sectors such as biological agents and explosives is exposing new asset integrity challenges as new technologies are being introduced to allow increased production without affecting surrounding land use.
13. **Emergency planning** as a last line of defence has to be sufficiently robust to contain an incident when normal control is lost. Such a response has to be achieved in the spotlight of public and media attention, with incidents often involving issues of environmental protection on which we have to work closely with other regulators such as the Environment Agency (onshore) and DECC (offshore). Safe evacuation of workers and limiting the impact to neighbouring populations or the environment is essential. Careful planning and close co-operation between the installation and front-line emergency responders, and between HSE and other regulators, is vital.
14. **Effective workforce involvement** and consultation on health and safety issues are essential for establishing an overall safety culture and ensuring that those in direct contact with the hazards have a key role in identifying and controlling them. The challenge for those industries covered by HID is in extending workforce engagement into process safety issues in addition to the more “traditional” involvement in occupational health and safety.

Policy response

15. There is a heavy policy agenda now driven by the need for rationalisation and streamlining or by Europe. Whatever the impetus, in making changes we will seek to create a modern goal-setting regulatory framework which reflects the scale of the prevailing hazards and which emphasises the effective management of risk. The key current policy portfolios, on which you are either already sighted or will be considering in depth soon, are:
- a. **Transposition of Seveso III** which will maintain the essential elements of the previous Directive (implemented by the COMAH Regulations) but which will introduce more modern requirements for provision of information to the public and align the scope of application to new international classification directives;
 - b. Development and transposition of a new **European offshore instrument** (whether Regulation or Directive) through which we hope to extend the current UK approach across all member states;
 - c. A **new mining package** which will streamline the existing huge and, in some cases outdated, suite of legislation and also modernise the regime by emphasising the control of major hazard risks and recast many of the legal duties so that they reinforce corporate responsibility and foster the right safety culture;
 - d. A **new explosives package** which, like mines, will modernise and rationalise a large and outdated suite of legislation;
 - e. Replacing the current prescriptive approach to **iron gas mains** replacement with a goal setting regime based on risk which will lead to a better safety outcome and more effective deployment of resources;
 - f. **New energy technologies** including developing policies around carbon capture and storage, and novel gas production, including shale gas 'fracking' and coal bed methane production;
 - g. Post-Callaghan improvements to **biological agents' regulation** to help integrate the requirements for human and animal pathogen control.

Operational response

16. A key principle is that this sector requires a supervisory regulatory regime that provides regular but proportionate assurance about the effectiveness of duty holder's risk management. There is a high public expectation that, where necessary, HSE challenges the way that duty holders are managing risk. This is a statutory requirement in many major hazard sectors through licensing and permissioning.

17. The five HID sector strategies, available at <http://www.hse.gov.uk/aboutus/strategiesandplans/sector-strategies/index.htm> set out the rationale for our intervention approaches. However, there is a common direction of travel for these, irrespective of sector. The mental starting point for this is the belief that there are, at a high level, common causes of major disasters. And by disasters we cast our net wide to include Nimrod air crashes in Afghanistan, through to oil rig blow outs in the Gulf of Mexico, to explosions at fuel depots in Hertfordshire. Common causes suggest common solutions, so HID increasingly takes a common approach to the way it seeks to influence change. This sections sets out the essence of this approach.
18. **Doing the right things** – paragraphs 9 to 14 set out what the evidence suggests are the key topics that we should engage with industry on. It is not an exclusive list, rather they are the topics which will give us the best return on our investment of limited resources. Having identified the topics, we agree expectations of what standards are appropriate. This may be HSE led (e.g. the development of guides to assessing plant integrity at ageing installations), or industry led (e.g. leadership guidance developed by the Process Safety Leadership Group set up after Buncefield). Having agreed the topics and expectations, our interventions with duty holders focus on these themes. In doing so, we move more quickly through processes like safety case assessments to maximise time spent on site verifying that claimed controls are actually in place and work effectively. The objective here is to increase impact by doing fewer, better, deeper, and more site based interventions rather than spread ourselves too thinly.
19. **Going to the right places** – we use intelligence about performance (against the priority topics) and intrinsic hazards to rank sites for proactive inspection. This serves a number of purposes. It enables us to target resources where they are needed most. It helps in the demonstration that our intervention plans are proportionate and evidence based, particularly important since we recover costs from the duty holders. Furthermore, good quality data and intelligence enables us to intervene higher up the management chain in organisations and with trade associations to get a shared perception of the nature and scale of the problem, and obtain commitments to improve. Allied to this, in the future, we will increasingly put this data and information in the public domain, as a further lever to secure improvements.
20. An example of this approach is where HID inspectors pooled their knowledge of a multinational oil company with offshore and onshore interests. We collectively grouped the issues into safety management system themes, each with supporting evidence. This enabled us to approach the company at Board level to present a high-level and evidenced picture of where they were good and where they needed to improve and see if this correlated with their own perceptions of performance. These types of high-level interventions will be used more in the future.

21. **Finish what we start** – after going to the right places and dealing with the right topics, it is essential that we secure the necessary improvements without undue delay and then document them accurately. We have changed our processes and ways of working to be more rigorous in our prioritisation of issues raised with businesses. As a result, we are better placed to conclude issues, using formal enforcement where necessary. This is supported by a range of developing internal performance metrics which allow us to monitor issues raised and closed out, and link this data to performance rankings and enforcement action to ensure a clear line of sight between priorities and the action taken by HID in the light of them.
22. This also offers further opportunities for making industries' performance on risk management more transparent. Essentially, we are collecting a range of data which will allow us to come to credible conclusions on whether the sectors we regulate are delivering adequate levels of risk control.

Working with Partners

23. Policy sets the legal framework, operational interventions ensure on the ground improvements. A third element is working with industry partners so that they exercise leadership on major hazard risk control on a broader front. We tailor this strategic engagement to the make up of the sector. Four examples illustrate the point.
24. In mines, HSE was a prime mover in setting up the Mines Safety Leadership Group to ensure that the sector took responsibility for delivering key elements of the mining sector strategy.
25. In onshore chemicals, building on the success of the Process Safety Leadership Group established to deliver the industry response to Buncefield, we have encouraged the Chemicals and Downstream Oil Industry Forum (CDOIF) onto a strategic footing. Now industry identifies key generic health, safety and environmental challenges facing the sectors and develops practical solutions supported by the regulator but owned by industry.
26. The use of industry-wide performance indicators is well established amongst leaders in the gas and pipelines sector. HSE has, for several years, published an annual report on the performance of the sector based on data provided by the UK Onshore Pipeline Operators' Association
27. In the offshore sector, HID has been heavily involved in the industries' Step Change programme, at both senior leadership level and on various steering groups. We have influenced the direction of that work including the establishment of the industry's own Strategic Plan 2010-15. HID challenges also led to the offshore industry, through Oil & Gas UK, agreeing to set its own hydrocarbon release reduction target of 50% over a three year period which, at the two year stage, it is on track to achieve

Conclusion

28. The major hazard environment is a challenging one. The price of failure is high and whilst the combination of circumstances that lead to major disasters are rare, events that could escalate to the very serious are much less so. Society wants both protection from major accidents and the benefits that come from these industries including, often, the benefit of developing the land around them. This also plays into the Government's Growth and Better Regulation agendas, which require us to be able to demonstrate that we are proportionate, that we engage meaningfully with stakeholders and that we do not constrain business with unnecessary burdens.
29. Inquiries into major accidents increasingly tell us that there are no "new" accidents, just the repetition of previous mistakes. HID's intervention strategy is therefore to be sharper in the diagnosis of poor performance and then to raise our sights to engage with those who can exert real influence for change in the organisations and sectors we regulate. Our challenge, and response, is to be constantly alert to the need to amend or adapt our intervention strategy, within the framework of the different legal regimes, to respond to (sometimes) fast changing industries and varying levels of performance and to be able to demonstrate to stakeholders that we are doing this in an effective and efficient way.

Action

30. The paper is for information and comment rather than action.

Paper clearance

31. The SMT cleared the paper on 7 November.

Annex 1: Pen Portraits of the HID Regulated Sectors

Mines

Sector description

1. Traditional mining activities and emerging subsectors, including:
 - a. Coal mining;
 - b. Mineral mining;
 - c. Tourist mines;
 - d. Storage mines.
2. The industry employs fewer than 6000 people and there has been a decline over the past 25 years. However, the industry is in a state of flux. Whilst the Daw Mill and Maltby mines are to close, there are possibilities that new deep mines will be opened in Yorkshire (potash), South Wales (coal) and South West Scotland (coal). Most mines are SMEs with only five operators employing more than 500 people.
3. Coal mines produce 15% of the coal burned in UK power stations, while the mining of rock salt plays an important role in keeping domestic transport networks open in the winter months. A major accident resulting in loss of production in this sector would affect energy generators, steel producers and other industries that are dependent on domestically produced coal.
4. **Key stakeholders**
 - a. Highly unionised workforce - the majority of employees belong to the National Union of Mineworkers (NUM), Union of Democratic Mineworkers (UDM), UNITE or GMB;
 - b. Most coal mining operations belong to the CoalPro trade association, while those in other mining subsectors belong to the Mining Association of the UK (MAUK).
5. CoalPro, MAUK, major mining employers, trades unions and HSE are members of the industry-led Mining Industry Safety Leadership Group, established in 2011 as a successor to the Mining Industry Committee.
6. **Safety and health issues**
 - a. Multiple major hazards with the potential for catastrophic mining accidents;
 - b. Ageing infrastructure;
 - c. Risk of occupational respiratory diseases due to exposure to a range of hazardous dusts, gases and other substances;
 - d. Despite the small size of the workforce, there were 10 fatalities between 2006 and 2009 (8 of them in large coal mines);
 - e. The number of major injuries remains relatively low.
7. Major hazards predominate in mines. The main risks arise from fire, explosion, rock falls and transport underground. Risks are usually confined to site.

8. Most recent fatal and major injury accidents can be traced back to insufficient implementation of safety management systems and a lack of effective safety leadership. The contraction of the industry has resulted in the loss of corporate memory relating to major hazards and risk control, as many experienced leaders have left the sector.

Explosives

1. Sector description

- a. There are approximately 150 commercial dutyholders (220 sites) plus Ministry of Defence (MOD) (50 significant sites and many hundreds of smaller sites);
- b. A few large multi-site companies, but also many smaller businesses and small specialist offshoots of larger organisations;
- c. 10,000 to 15,000 workers handling explosives (excluding armed forces);
- d. General decline in manufacturing explosive substances, replaced by storage / assembly / processing of bought-in explosives, but increase in military demand.

2. The sector covers manufacture and storage of explosives.

3. Key stakeholders

- a. MOD (influential on standards setting as a customer and self regulates on licensing and classification);
- b. Fragmented industry representation: main industry bodies are Confederation of British Industry (CBI) Explosives Industry Group, British Pyrotechnists Association and British Fireworks Association;
- c. Institute of Explosives Engineers now emerging as a coherent professional body.

4. Safety & health issues

- a. Potential for catastrophic major incidents;
 - b. Asset integrity - both aging plant / infrastructure and new safety-critical designs;
 - c. Loss of experienced competent staff (aging workforce, industry shift away from manufacture);
 - d. Leadership - business leaders must actively manage their major hazard risks and ensure that staff are suitably competent and follow procedures.
5. There are typically 3–4 major accidents per year, plus around 20 dangerous occurrences (potential precursors). Consequences of a major incident can be loss of key products for essential uses, as well as harm to people and environment.
 6. Due to the potential for mass explosion, inappropriate classification and storage of fireworks and other explosives can have catastrophic consequences, as illustrated by the Festival Fireworks and Enschede incidents.

Gas and pipelines

1. Sector description

- a. Drilling and productions rigs and vessels;
- b. Offshore pipelines (20 000km);
- c. Onshore pipelines (230 000km);
- d. Gas importation and storage;
- e. Most operators have a highly trained management and workforce;
- f. Many operators are multinational companies;
- g. Crucial to meeting GB's energy needs;
- h. Potential for catastrophic outcomes.

2. Offshore

Pipelines transport oil and gas between the 260 offshore installations and to shore. Pipeline integrity is essential to securing the safety of offshore installations, but also plays a key part in ensuring oil and gas leaks are prevented and the environment is protected.

3. Onshore

The majority of pipelines make up the gas transmission and distribution system. The national network is operated by four key dutyholders; smaller networks are operated by independent companies. Other pipelines are also used to transport gasoline, kerosene, ethylene and other industrial products.

4. Gas importation is via two routes. Sub-sea pipelines known as interconnectors import and export gas from and to continental Europe and Ireland. Liquefied natural gas (LNG) is imported via ship and unloaded and stored at four key terminals prior to gasification and injection into the transmission system. It is expected that by 2020 50% of GB's gas demand will be met via LNG imports.
5. Gas is also stored in underground cavities in salt deposits and in depleted reservoirs from which gas or other hydrocarbons have previously been extracted.
6. The majority of dutyholders are national and multinational companies with highly trained managers and staff. Strong leadership is required to maintain and apply skills appropriately to ensure the continued safety of assets which in many cases are aging significantly.
7. The focus of the strategy is to ensure the prevention of failure of pipelines and storage facilities which could lead to the release of gas and give rise to catastrophic fire and explosion involving workers and members of the public. Conventional health and safety risks affecting workers in the industry are addressed through other strategies (eg construction).
8. Given the implications of gas supply problems, HSE working with DECC and gas industry stakeholders to improve the management of any large-scale gas supply emergency is therefore also a strategic aim.

9. Key stakeholders

- a. Gas distribution network operators (GDNs): National Grid, Scotia Gas Networks, Wales & West Utilities and Northern Gas Networks;
- b. Gas national transmission system (NTS) operator (National Grid);
- c. Government bodies: DECC, Office of Gas and Electricity Markets (Ofgem), Environment Agency;
- d. Industry bodies and groups: United Kingdom Onshore Pipeline Operators' Association (UKOPA), Gas Transporters Operational Safety Group (GTOSG), PLUG;
- e. Professional bodies: Institution of Gas Engineers and Managers (IGEM);
- f. Trades unions: General, Municipal, Boilermakers and Allied Trade Union (GMB), Unison, Prospec.

10. Safety and health issues

- a. The principle risk is fire and explosion associated with loss of containment of gas or volatile fluids carried within pipelines;
- b. Offshore failure of the riser or Riser Emergency Shut Down Valve (RESDV) can threaten the integrity of any installation and the lives of workers;
- c. Onshore the risk is generally to members of the public;
- d. Aging infrastructure is a significant threat to asset integrity;
- e. Third-party interference (offshore - anchor damage, onshore – construction and agricultural activities) can also be a significant cause of pipeline failure.

Chemicals

Sector description

1. The sector comprises:
 - a. Manufacture of chemicals (including downstream oil and petrochemicals);
 - b. Refining and production of petroleum products;
 - c. Import and storage of chemicals and petroleum products;
 - d. Chemical storage;
 - e. Chemical and petroleum products distribution (excluding pipelines);
 - f. Biological agents - biotech / pharmaceutical production;
 - g. Chemical use at work - provision of information / national use restrictions but risk control only within chemical industries.
2. The sector is largely centred in the north of England and is in slow decline, with employee numbers falling a 1/3 since 1998/99 to around 175,000.
3. However, chemical industries consistently account for about 6.5% of all manufacturing and contribute around 1% to GDP. Commercial pressures - mainly from the Far East - mean the UK industry is shrinking, becoming more specialised and slowly moving away from the manufacture of high volume-low margin chemicals towards an import model.
4. There are 980 COMAH sites in Britain.

Key stakeholders

5. For onshore major hazards the main stakeholders are:
 - a. Employer trade associations;
 - b. Trades unions;
 - c. Professional bodies, such as the IChemE;
 - d. The police and VOSA - in relation to the transport of hazardous substances by road;
 - e. Local planning and hazardous consent authorities, DCLG and devolved administrations;
 - f. Regulator and industry forums, including the Chemical and Downstream Oil Industries Forum (CDOIF) and the Process Safety Leadership Group (PSLG);
 - g. COGENT - the main skills body for competence.

Safety and health issues

6. The occupational injury data for chemical industries indicates relatively lower rates, and lower than Manufacturing as a whole.
7. The main health and safety issues within the sector are:
 - a. the major hazard risk (risk of a catastrophic incident from fires, explosions, or the release of toxic substances such as chlorine);
 - b. occupational disease - particularly longer-latency disease;
 - c. appropriate management of the chemicals supply chain.

Major hazard risk

8. Major hazard incidents can have large economic, strategic, environmental and human consequences. The Buncefield incident in 2005 is estimated to have cost a total of £1 billion and the release of foot and mouth from Pirbright in 2007 is thought to have cost the farming community £100 million.

Offshore oil and gas

Sector Description

1. The sector consists of:
 - a. About 107 oil and gas producing installations and 181 gas producing installations, located on 383 producing fields;
 - b. 440,000 workers, with around 34,000 directly employed by oil and gas companies;
 - c. 45% of the workforce is employed in Scotland, 21% in SE England;
 - d. Exploration using mobile offshore drilling units (MODUs) varies year from year;
 - e. Major contributor to the UK economy - £40 billion annually.
2. Offshore oil and gas from the UKCS satisfies about 66% of the UK's primary energy demand. Key factors that may influence future investment in the UKCS are the oil price, the fiscal regime (taxation), technical capability to

recover harder to reach reserves, UK Government's energy policy, further regulatory burdens (health and safety as well as environmental), and the attractiveness of investing in other parts of the world.

3. Key stakeholders

- a. The offshore workforce;
- b. Department of Energy and Climate Change (DECC);
- c. Maritime and Coastguard Agency (MCA) / Marine Accident Investigation Branch (MAIB);
- d. Regulator Fora: The International Regulators Forum (IRF) , North Sea Offshore Authorities Forum (NSOAF);
- e. Trade unions: Unite, RMT Offshore Energy Branch;
- f. Industry associations (eg Oil and Gas UK, Offshore Contractors Association International Association of Drilling Contractors);
- g. Offshore Industry Advisory Committee (OIAC);
- h. Step Change in Safety;
- i. Organisations acting as Independent Competent Persons (ICPs);
- j. UK Government ministers;
- k. Civil Aviation Authority (CAA);
- l. Air Accident Investigation Branch (AAIB);
- m. The European Commission.

4. The UKCS includes some of the most challenging and hostile working environments for oil and gas extraction in the world. The main areas of work-related health and safety risk include:

- a. Major hazard accidents arising from the loss of installation structural integrity / well integrity and / or fire and explosion;
- b. Occupational health and safety of workers on offshore installations – key issues are noise, vibration and welfare arrangements;
- c. Diving at work;
- d. Helicopter / aviation transport risk;
- e. Maritime risk related to standby, supply and other ships and units associated with, and in close operational support.

Biological agents

Sector description

1. The sector comprises:

- a. research (education, government, medical);
- b. healthcare (clinical diagnostic microbiology);
- c. chemicals (pharmaceutical, biotechnology);
- d. agriculture (veterinary, plants).

2. There are approximately 790 dutyholders in the UK employing in the region of 26,000 staff deliberately working with biological agents. Biological agents (e.g. human, animal or genetically modified pathogens) are used to develop vaccines, medical/veterinary treatments, diagnostic testing and basic research.
3. There are currently 6 employers spread across 8 sites in the UK with laboratories operating Class 4 laboratories (the highest risk) and 254 employers operating at Class 3. Many sites will have multiple containment laboratories. There are an additional 529 employers with notified sites operating at lower levels (Class 1 & 2).
4. The sector attracts considerable political and public interest in biological agents e.g. the Pirbright incident, GM plants/food, and E. coli 0157 in open farms. Parliament is also interested in bio-terrorism and synthetic biology; and public interest remains in gene therapy and genetic modification.

Key stakeholders

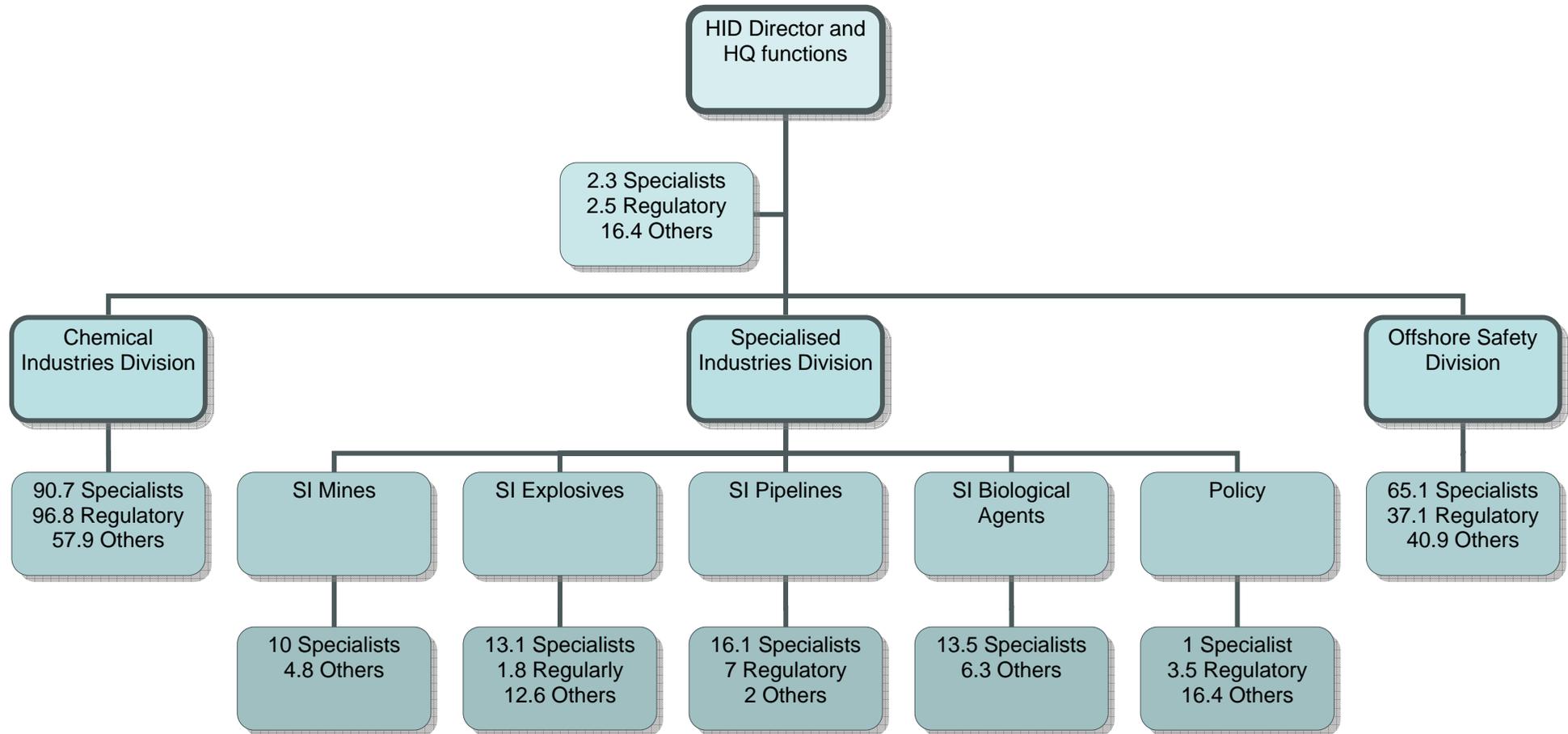
5. For biological agents contained use activities, the key industry stakeholders are those whose primary focus is human and animal health protection and are large organisations with multiple locations. These include:
 - a. Department of Health;
 - b. Universities;
 - c. DEFRA;
 - d. Pharmaceutical industry.
6. A High Containment Leadership Group has been established to drive improvements across the sector.

Safety and health issues

7. The main health and safety issues within the sector are:
 - a. Major hazard risk to people from the release of high hazard biological agents;
 - b. Release of animal pathogens with significant animal health and economic impact. For example, the Pirbright foot & mouth incident is estimated to have cost the farming community over £100 m.

Annex 2: HID structure, staff numbers, costs and income

HID has 517.16 Full Time Equivalent Staff (FTEs) in total. The diagram below shows the structure of HID with a breakdown of HID FTE numbers by Band 2 (team leader), Band 3 specialists and regulatory staff and 'other' staff (which includes administrative staff and all senior civil servants).



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The table below shows HIDs expenditure and income based on 2012/13 figures.

Expenditure	Payroll	£32,448,484
	Other	£12,222,763
	Total	£44,671,247
Income	Offshore Safety Case	-£17,108,000
	COMAH	-£11,854,086
	GSMR	-£470,313
	Explosives	-£270,000
	Fee for Intervention	-£267,220
	GMO Notifications	-£170,541
	Other	-£1,345,955
	Total	-£31,486,115
Net	Resource	£13,185,132
	%age costs recovered	70%