

PE1522/F

Health and Safety Executive Letter of 10 July 2014

To: Ned Sharratt - Assistant Clerk, Public Petitions Committee

From: Susan Mackenzie – Director, Hazardous Installations Directorate, HSE

Date: 10 July 2014

Dear Mr Sharratt

SCOTTISH PARLIAMENT PUBLIC PETITION PE1522 - IMPROVING BULK FUEL STORAGE SAFETY

Thank you for your letter of 22 May 2014 to David Ashton, HSE's Acting Deputy Chief Executive, regarding the above petition lodged by Mr Simon Brogan. I am responding as Director of HSE's Hazardous Installations Directorate responsible for the health and safety regulation of fuel storage sites in Great Britain.

Mr Brogan's petition focuses on improving standards of secondary containment or bunding at fuel storage sites in order to protect the environment, particularly at those sites that are not subject to specific legislation including the Water Environment (Oil Storage)(Scotland) Regulations 2006 and the Control of Major Accident Hazards Regulations 1999 ('COMAH'). Environmental protection in Scotland, including the environmental aspects of COMAH, is the responsibility of the Scottish Environment Protection Agency (SEPA) and who are therefore better placed to respond to Mr Brogan's concerns in these areas. I note from his petition that Mr Brogan has already engaged SEPA on this issue.

In support of his arguments for improved secondary containment, Mr Brogan refers to data on safety standards, dangerous occurrences and other reportable safety incidents, enforcement notices served by the COMAH Competent Authority (CA) during 2011/12 and the results of the COMAH CA's Ageing Plant Programme. HSE believes the data are taken from an article in the December 2012 edition of Energy Institute's magazine 'Future Refining and Storage'.

I would like to clarify for the Public Petitions Committee that the data in the article and the comments attributed to HSE's Head of Chemical Industries Division related to the performance of all COMAH major hazard sites across Great Britain and not lower hazard sites such as the Kirkwall depot. The data included refineries, chemicals and explosives manufacturing and storage sites, as well as large scale fuel storage sites storing more than 2,500 Tonnes of petroleum products. Mr Brogan also states in his Petition that "Statistics show that [sic] COMAH authority has been slow to respond to incidents by improving its safety and operational performance." The precise wording in the article is that "Statistics show that *the downstream industry regulated by*

the Competent Authority has been slow to respond to incidents...” (my emphasis) A copy of the article is attached.

Nevertheless, the article does paint a worrying picture of COMAH industries’ performance in 2012, and the CA – which comprises HSE and SEPA in Scotland – continues to put considerable effort into influencing the chemicals and downstream oil sectors performance through its targeted, risk-based inspections, as well as central interventions with large organisations and engagement with trade associations to develop and promulgate high standards of process safety leadership and management to enable COMAH operators to manage and control their major accident risks.

While the CA’s focus is on the highest hazard sites covered by COMAH, HSE also has a risk-based and targeted programme of inspection for chemical and fuel sites that are not subject to COMAH but may present significant health and safety risks to workers and people offsite. Employers at these sites are required to meet the general duties under the Health and Safety at Work Act etc. 1974 to ensure the health and safety of employees and the public around the site, and the Dangerous Substances in Explosive Atmospheres Regulation 2002 impose further duties concerning the storage of or work with dangerous substances. We would expect operators of sub-COMAH sites to apply recognised codes and industry standards for the design and operation of tanks and pipework and take account of good practice in the management of their asset integrity.

I am happy for this response to be made available to the public.

Yours sincerely

Susan Mackenzie
Director – Hazardous Installations



The UK now has Europe's highest rate of reported accidents at COMAH sites

Falling back

The UK's Health & Safety Executive has identified that COMAH performance at refineries and storage facilities is actually getting worse. A new emphasis on competence and inspection aims to set things right.

COMAH performance across the UK's major hazards sector is getting worse, according to the COMAH Competent Authority's 2011–12 performance figures. In light of this, the Competent Authority is making inspection procedures increasingly stringent for duty-holders and renewing its emphasis on performance measurement, monitoring and reporting. Around 1,000 sites in the UK are subject to the Control of Major Accident Hazards (COMAH) Regulations, of which 370 are 'top-tier' sites, and there are another 300 or so just below the COMAH threshold but which nonetheless pose significant risks.

"What we're also finding from our interventions is that there could be more in terms of sharing of performance data across industry sectors, between companies, different sectors and across industry in general," Peter Baker, deputy director and head of the chemical industries division of the UK HSE's Hazardous Installations Directorate and COMAH Competent Authority, told the Tank Storage Association (TSA) conference in September. "The advantage of that is that sharing your experiences with each other means that you can help support each other along the way.

"What we're finding, though, is that duty-holders aren't fully engaged with measuring or benchmarking their own performance," Baker continued. "The problem is that you don't know if all that effort you've put into improving is

actually delivering the goods and moving the business on to where you want to be."

Competence assurance is also new for 2012 and the COMAH Competent Authority will be assessing competence management systems at sites across the country in an effort to try to eliminate human error contributing to loss of containment incidents at COMAH facilities.

Sliding backwards

Statistics show that the downstream industry regulated by the Competent Authority has been slow to respond to incidents – such as the 2005 Buncefield explosion – by improving its safety and operational performance. To look at the figures another way, perhaps greater diligence on the part of the enforcement authorities has started to pick up on operators' shortcomings.

COMAH performance during 2011–12 gave what Baker described as "a rather mixed picture". Some areas improved, but others saw performance worsen. According to the COMAH Competent Authority figures for the period, there were 307 RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995) incidents, of which 142 were dangerous occurrences; 91 were precursor-type events (eg explosions, fires, and releases of dangerous or flammable substances); and 69 incidents related to the release of substances.

"We've had a number of dangerous occurrences and unfortunately over the last two

to three years our rate of EU-reportable major accidents has gone up,” Baker said. “In terms of the number of sites we have in the UK, which is around 10% of the European Seveso market, our accident rate is higher than anybody else’s, so we’ve got a bit of a problem in terms of incidents. Having said that, when we’re out on site, we’ve also found that our inspectors are generating more and more issues or areas of compliance which are significant enough for our inspectors to have to go back to the site or even take enforcement action on them.

“We’ve also found that we still have to serve enforcement notices to insist that operators get things right,” Baker said. During the 2011–12 period, 92 enforcement notices were handed out to 49 COMAH duty holders, a relatively small segment of the COMAH community but one that contributes significantly to enforcement statistics.

Ageing plant

Ageing tank assets cause many loss of containment incidents. The Competent Authority has been running the Ageing Plant Programme for around three years now, and has been liaising closely with operators to help bring facilities up to scratch. Data gathered so far, however, shows that the job is an uphill struggle, but having the numerical scores and other data gathered during inspection allows both the COMAH Competent Authority and operators to assess, monitor and approach ageing plant problems in an objective way.

“We did an exercise at the beginning to score performance against a number of criteria on ageing plant, and we found that around about 75% of sites were scoring 30, which is below compliance, to 50, which is at the very poor end of the scale. So 75% of those sites tested were not compliant with what we expect to be a reasonable level of ageing plant management,” Baker said. “So we put a bit of effort into it through inspections and also dealing with stakeholder groups and the individual companies, and then we ran the exercise again. There’d been an improvement, but it was now 70% [scoring between 30 and 50] and we don’t think that improvement was good enough. There is a big problem still with ageing plant.”

Competence management systems

The inspection of competence management systems (CMS), however, is brand new as of this year. Findings published by the COMAH Competent Authority Intelligence Review Group (CAIRG) in the HSL Annual

All top-tier COMAH sites in the UK will be subject to a CMS inspection



Operational Intelligence Report 2010 show human error was by far the most frequent cause for loss-of-containment events in the chemicals sector. Inadequate procedures, poor plant design and unsuitable risk assessment were also identified as key contributors to incidents.

The CMS inspection scheme aims to reduce the potential for incidents caused by human error as much as possible because “all risk control systems rely on humans”, as Shane Wakefield from the Chemical Industries Strategy Unit at HSE’s Hazardous Installations Directorate, told the TSA conference.

In doing this, the inspection process aims to ensure COMAH duty-holders have “suitable and sufficient arrangements to ensure competence in all staff involved in the control of major hazard risks”, to identify areas where further action must be taken, and “to collect and publish performance data and to highlight any common areas of concern and poor performance,” Wakefield said.

The CMS inspection regime is just over eight months old, having started earlier this year, and will run until 2015. Wakefield told the conference his teams have already performed some preliminary inspections, and the scheme looks promising for the future.

COMAH duty-holders will firstly be subject to a Part A inspection, a “gateway inspection” where a sample competence check is performed to assess how a critical task is undertaken. All top-tier COMAH sites will be subject to a Part A inspection. Around one-third of lower tier sites will also be inspected, but for them the Part A inspection will focus on process safety risk assessment.

Those duty-holders that demonstrate significant failings during the Part A inspection will consequently be subject to a Part B inspection, which will aim to tackle the shortcomings identified in the first round in greater detail. After the Part B inspection, COMAH duty-holders and the Competent Authority will work together to appraise the existing CMS, after which it will be redesigned, implemented and developed and finally audited and reviewed.

What to do

There are no excuses for not getting it right – and there are shortcuts available to help along the way. Operators looking to check compliance requirements for their sites can refer to the COMAH Competent Authority’s delivery guides, which are available through the UK HSE website – especially handy just before an inspection.

“These delivery guides are published and, if you don’t do anything else, get hold of the delivery guides because they set the exam questions that inspectors will be trying to test your site against,” Baker said. “It always helps if you’ve done your homework before an intervention with our inspectors, and that you can demonstrate compliance with those requirements.”

The COMAH Competent Authority is trying to create dialogue between industry and its regulators, and to build up a transparent snapshot of performance across the UK’s major hazards sector. The industry cannot afford another Buncefield.

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