## REDUCING SPILLS OF HOT BITUMEN DURING TRANSFER INTO THE CUSTOMER'S STORAGE TANK

Eurobitume UK, which used to be known as the Refined Bitumen Association (RBA), is committed to working with everyone at each stage of the bitumen supply chain to actively and continually improve the safe handling and delivery of bitumen.

The transfer of hot bitumen under pressure from a delivery vehicle into customer storage tanks is a potentially hazardous process. Eurobitume UK member companies, who are the main suppliers of Bitumen to the UK market, are focusing their attention on reducing the number and severity of hot bitumen spills during delivery.

In June 1996, the RBA published the first Code of Practice for the Safe Delivery of Bitumen Products (SDBP). This was revised in 2001 and then again in 2006.

In 2011, Eurobitume UK published the Guide to Safe Delivery of Bitumen (GSDB), which is currently being revised and provides even more comprehensive advice and guidance than the SDBP on:

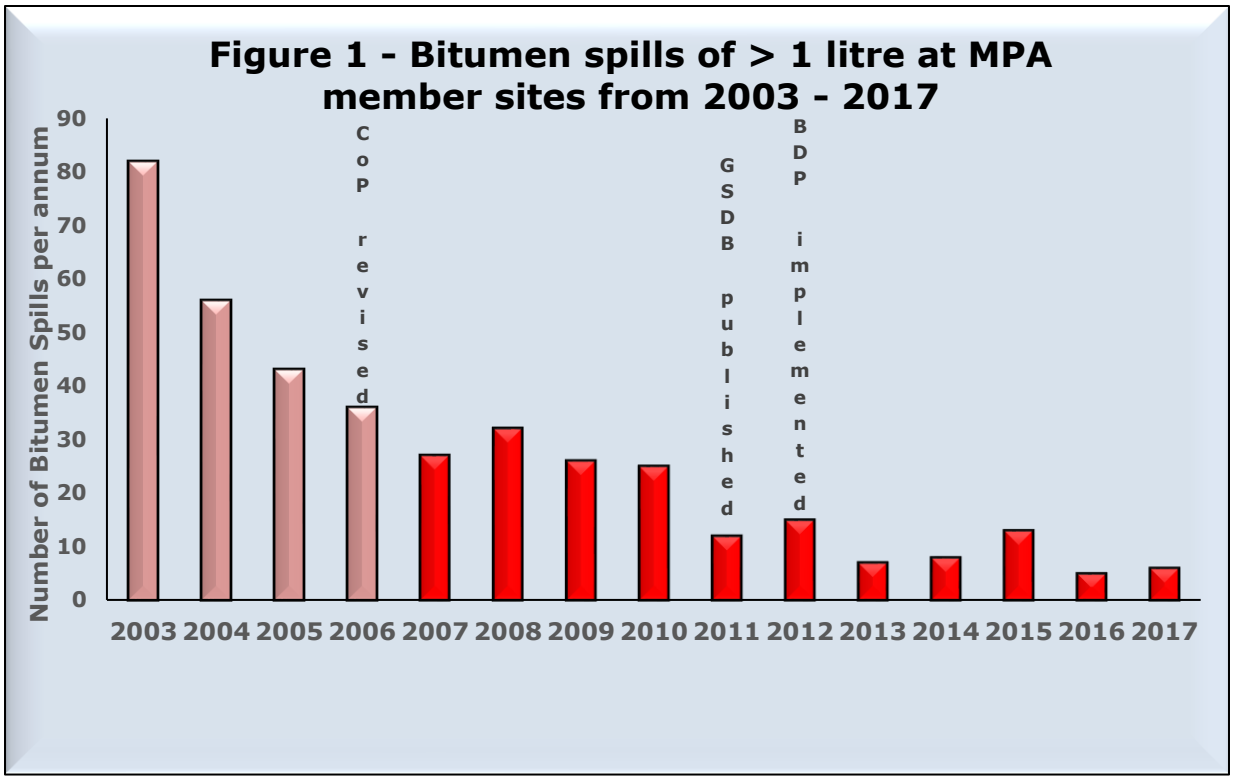
- Tank gauges and alarms (including the introduction of high, high level alarms)
- Tank design, pipework and flanges
- Safety showers
- Delivery procedures for the delivery driver and customer.

In 2011/12, Eurobitume UK and MPA WG7 (Mineral Products Association Working Group 7 focusses upon bitumen-related safety issues) developed the Bitumen Discharge Permit (BDP). Full implementation of the BDP aims to ensure that:

- The tank gauges and alarms are working correctly
- The correct product is going into the correct tank
- There is sufficient ullage
- The emergency equipment is operating correctly.

### BITUMEN SPILLS FROM 2003 - 2017

So did the introduction of the SDBP, and more recently the GSDB and the BDP, have an impact on the number of bitumen spills? Well, Figure 1 shows a marked reduction in the number of bitumen spills per annum from 2003 – 2017, so the answer would seem to be that they have.




Historically, the majority of spills and near miss reports were the result of faulty gauges and high-level alarms (HLAs). In the nine years from 2009 – 2017, there were 117 spills of bitumen that occurred during the transfer of bitumen from the delivery vehicle to the storage tank. Figure 2 shows the primary cause for the 117 spills was faulty gauges and HLAs, which accounted for 44 (38%) of the spills.

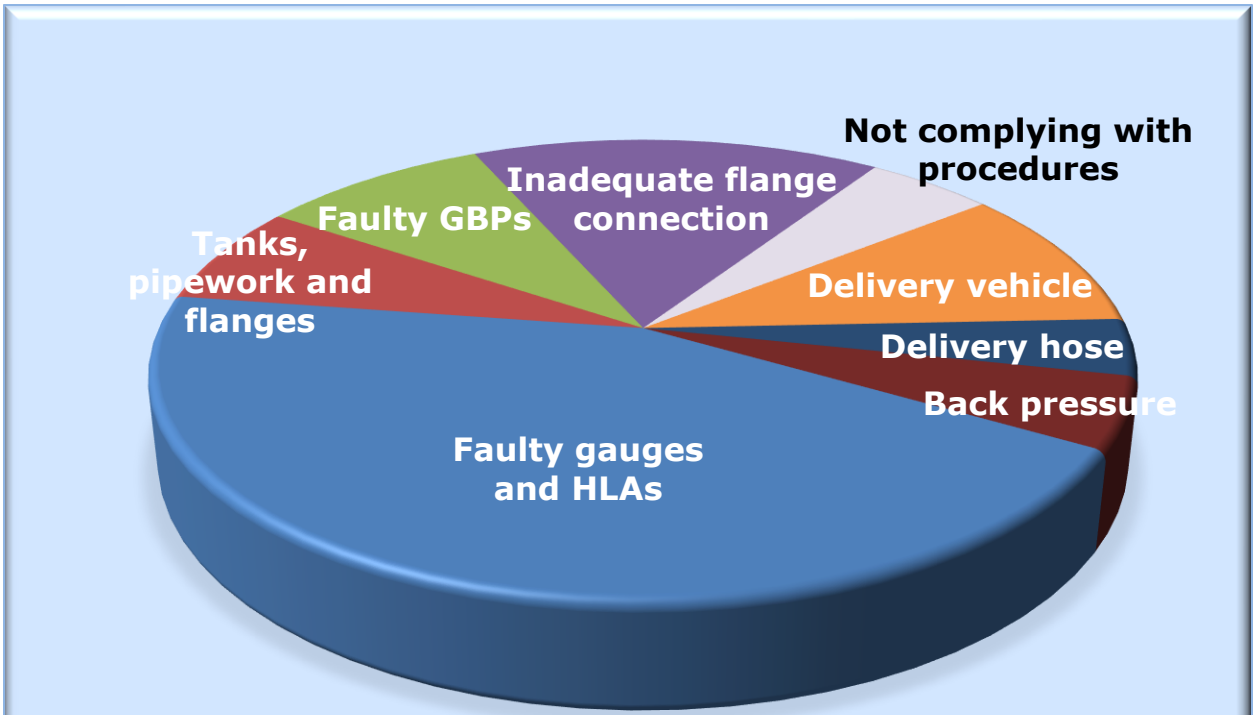



**Figure 2 - 117 Bitumen spills > 1 litre at MPA member sites 2009 - 2017**

In the last nine years, the number of bitumen spills due to faulty HLAs and gauges has steadily fallen. In 2017 there were just six spills of hot bitumen >1 litre, two of which were due to faulty gauges and HLAs (see Figure 3).

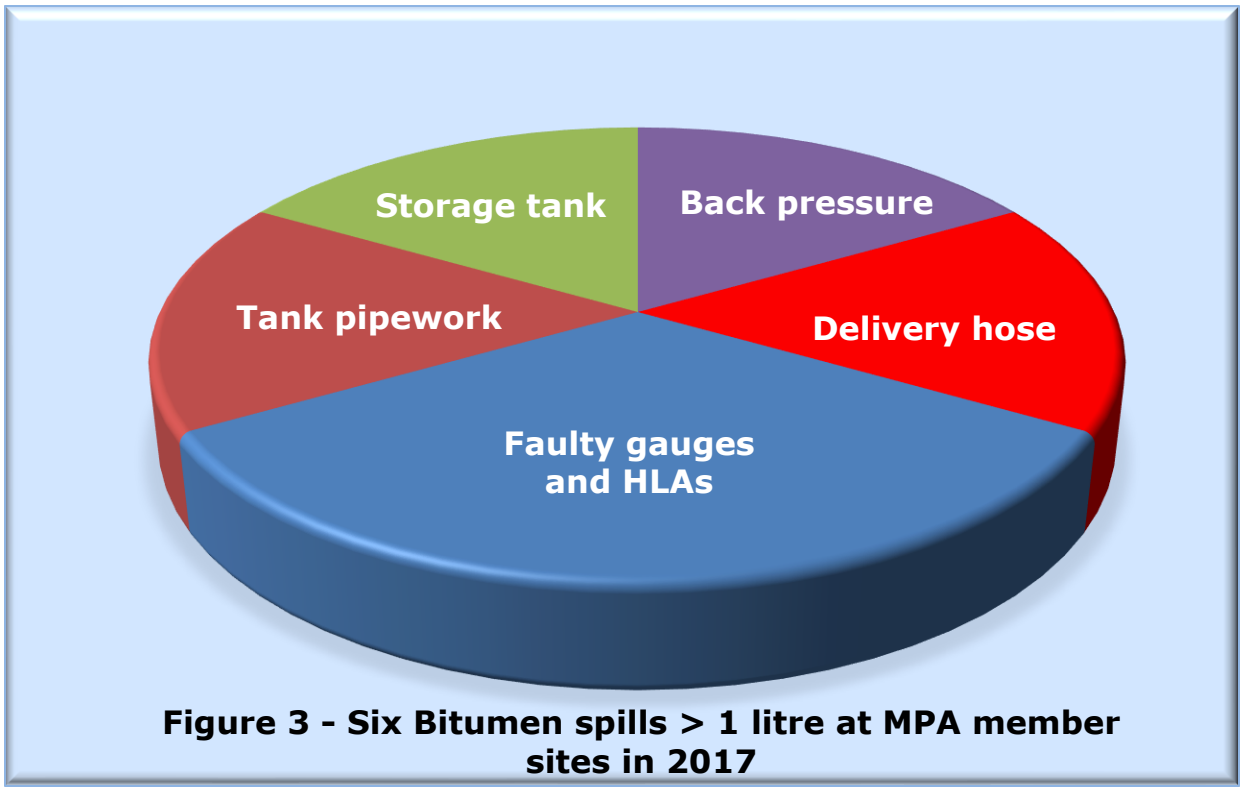



**Figure 3 - Six Bitumen spills > 1 litre at MPA member sites in 2017**

Figure 4 details the causes of the 762 near misses reported at MPA member sites over the last four years, when almost half of all the near misses were faulty gauges (21%), faulty HLAs (10%) or the HLA being activated during the delivery (13%).

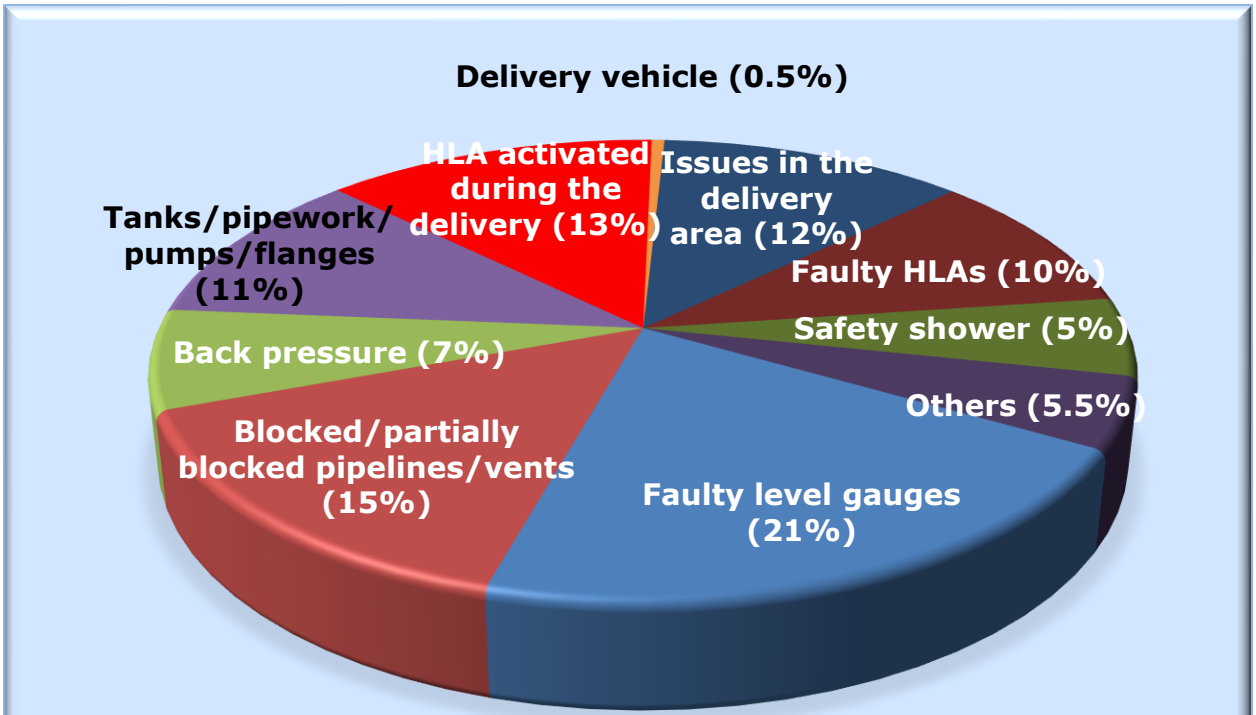



**Figure 4 - 762 Near Misses Reported at MPA Member sites in 2014 - 2017**

The number of near misses involving blocked or partially blocked pipework and vents appears to be increasing, which is an area of increasing concern.

However, on a positive note the last Personal Injury that occurred during the delivery of bitumen was back in 2012.

**FOCUS FOR THE FUTURE:**

In 2018, Eurobitume UK members and their customers are focusing on reducing the number of hot bitumen spills and near misses during bitumen delivery caused by:

- Faulty gauges
- Faulty HLAs
- Blocked/partially blocked pipelines and vents
- Issues with the flexible delivery hose
- Continued driver training about the critical importance of a secure connection to the delivery flanges
- Continue developing and implementing safety initiatives with MPA WG7.