

Uncontrolled bitumen spill during the first delivery of bitumen into a new bitumen storage tank

WHAT HAPPENED

Background

In recent years, there have been several uncontrolled bitumen spills and incidents when the first delivery was made into a new bitumen storage tank or tanks being recommissioned after being taken out-of-service.

In 2021, Eurobitume produced the guidance document '**Guidance for bitumen deliveries into new storage tanks and storage tanks being returned to service**'. This document contains useful guidance and checklists. It can be downloaded free of charge from the [Eurobitume website](#)

Brief description of the incident

A 'procedure load' (a staged delivery described in detail in the above document) was being made into a new bitumen storage tank.

This new tank was fitted with an internal vent pipe. After approximately 18 tonnes had been delivered, hot bitumen was observed pouring out of the ground level vent pipe. The delivery was terminated but hot bitumen continued to flow out of the vent pipe. Several tonnes of bitumen were spilt with hot bitumen surrounding part of the delivery vehicle.

Root causes of the incident

- On this new tank the vent/overflow pipe was located on the inside of the tank. It was 10m in length and fabricated by stitch welding two lengths of pipe before a 90° elbow near the base of the tank.
- It is believed that when the hot bitumen was introduced the vent pipe welding was either incomplete or failed allowing the hot bitumen to escape down the vent pipe. Those present were powerless to stop the flow of hot bitumen and it only stopped when the level of bitumen in the tank reached the fault in the vent pipe.

LEARNING POINTS / ACTIONS TAKEN

Corrective & preventative actions taken

1. The existing internal vent pipe was blanked off and an external vent pipe was retrofitted to the tank.
2. The tank manufacturer updated their quality procedures to include pressure testing of internal vent pipes.
3. The commissioning/acceptance checklist for new bitumen storage tanks was modified to include:
 - Factory inspection of new tanks prior to delivery by a competent person.
 - The specification for new tanks requires external vent pipes.

LOCATION: ASPHALT/COATING PLANT
ACTIVITY: TRANSPORT & LOGISTICS / DELIVERY
SUB ACTIVITY: DELIVERING BITUMEN

ALERT STATUS: Normal
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INCIDENT No: 03635