

Bitumen Burn During Planned Maintenance

WHAT HAPPENED

During planned maintenance to remove and replace a bitumen pump, a spillage occurred.

A company fitter tried to block the leaking pipe using rags as he did not know how to turn the valve off manually. When he tried this, bitumen covered his right forearm causing burns.

Key Factors:

- Inadequate planning in the risk assessment process, key hazards were not identified
- No physical way of checking the isolation, the 'try out' stage in our procedures
- Mechanical failure of the actuator valve due to an air lock in the system
- Insufficient training with the fitting team, no one knew how to close the valve manually in an emergency
- Inadequate PPE for the task, no consideration of the risks associated with bitumen.



Actuator valve; with no physical way of knowing if isolated effectively



Modern system with a bleed valve which would confirm effective isolation of the pipeline

LEARNING POINTS / ACTIONS TAKEN

Review the current layout of open and closed plants and document findings

- A task specific risk assessment and a safe system of works for working on bitumen lines or pumps must be prepared and approved by a member of the HSE team, an Area Operational Manager, or a Director
- Permit to Work (PTW) must be issued for work on bitumen tanks and their associated pipelines
- Ensure Isolation SOP covers all forms of energy and valves are physically checked to confirm they are closed
- Remember all steps of 'LOTOTO'
- Isolation cannot rely on a control valve as a main method of isolation, a suitable and sufficient alternative must be in place (gate valves or alternative), with a bleed valve or other method to 'Try Out' the isolation valve

- Add clear labelling to all valves to highlight open or closed
 - Communicate the manual operation to turn valves off (if manual gate valves are not installed) in an emergency situation
 - PPE must be appropriate for the task (i.e. long sleeve)
 - Refresh training for bitumen safety
 - If the task changes, ensure a 'Stop Assessment' is carried out.
 - Ensure there are robust emergency procedures in place and carry out regular emergency drills to test the effectiveness.
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LOCATION: ASPHALT/COATING PLANT
ACTIVITY: MAINTENANCE & HOUSEKEEPING
SUB ACTIVITY: N/A

ALERT STATUS: Normal
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