

# BI-02A.48 Flammable liquid line specifications are detailed for mobile equipment

*(Accountable - Engineering Manager (Site) (Unassigned))*

## Expectations

Sites should prepare specifications that OEMs/suppliers confirm are met for flammable liquid lines on mobile plant. These engineering specifications should meet site requirements for filling, operation, maintenance and integrity during normal and any incident/emergency situation.

## Specify

OEM provides maintenance strategy and guidance for:

- flammable liquid systems
- fuel/retardant lines (including requirements for braided hoses, wire tied, etc.)
- over-pressure/breather lines are sited so that any release of flammable liquids will be to the lowest practicable location on the item of mobile plant - remote from any hot components
- over-pressure/breather lines are fitted with appropriate valves so that no uncontrolled release of flammable liquids will occur in a roll over situation
- critical hoses/lines - identified from a fire risk assessment process that is matched to site, regional location and global considerations relevant to the type of plant
- documentation (in a plant safety file format) that identifies what is critical and why on the item of mobile plant, providing guidance on design parameters (including for restraints)

Design requirements for lines carrying combustible liquids:

- Made from metal piping or fire and wear resistant hoses complying with ISO 7840
- Have visible line joints
- Install with the minimum number of line connections
- Supported to prevent damage due to vibration, abrasion, and rubbing
- Routed as far as practical so any fuel leaks cannot contact surface temperatures above the fuel ignition point
- Minimising the requirement for lubrication lines to include internal porting (i.e. turbo lubrication lines)

Reference: Section 4.7 of ISO 19296 Mining - Mobile machines working underground - Machine Safety First edition 2018-11

## **Implement**

Pre and post delivery inspections confirm mobile plant meets nominated specifications.

Work orders related to inspection and replacement of flammable liquid lines are executed in line with the maintenance strategies for the items of plant.

## **Monitor**

Detailed maintenance inspections are conducted and any issues arising are tracked and reported upon to senior site engineering personnel.