# BI-02A.60 Specification for an OEM Fire protection evaluation for mobile equipment

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

## Expectations

**Industry Project**

Equipment and equipment component suppliers provide a fire protection evaluation of their products.

## Specify

Sites specifications for equipment and equipment component should be supported by a manfacturer (or supplier) design evaluation of fire hazards.

These design evaluations should systematically identify fire hazard (threats) and their controls (protections) including maintenace and servicing requirements.

Design evaluations should be reviewed as part of the introduction to site process confirming:

1. Where required, an evaluation has been prepared and provided
2. The evaluation is adequate
3. Site operating conditions and equipment duty requirements are considered and the evaluation is modified, after consulting with the manufacturer or supplier.

The evaluation servicing and maintenance requirements are included in the maintenance schedule and recorded in the Plant Safety File.

Equipment suppliers including for third party modifications shall provide a design evaluation of fire hazards that includes:

- How spray from ruptured hydraulic or lubricating oil lines is prevented from being ignited by contact with engine exhaust system components.

- The use of flame retardant materials in operating cabin for interior, upholstery and insulation
- Fire retardant insulation used in other parts of the mobile equipment
- Exhaust system design to minimize the risk of heat damage or ignition of the fuel system, hydraulic system or equipment tyres
- Brake systems that prevent sparks and installed that the emitted heat cannot ignite the fuel system, hydraulic system or tyres.
- Hot engine and brake system components designed to minimize the accumulation of combustible material.
- Machine suspension systems designed so that if they fail the tyres do not abrade on the machine body

The use of fire hazards controls such as:

- Insulation or water jacketing of hot components
- Secondary containment of liquid fuel lines and hoses
- Separate compartments for hot engine components and lines
- Fire-resistant hydraulic fluid - approved for use, suitable confirmed by flame spray testing
- Fitting portable suitable fire extinguishers for fire type and load that are protected against heat and mechanical shock and vibration
- Conduit over lines to block sprays

References:

- Section 4.13 of ISO 19296 Mining - Mobile machines working underground - Machine Safety First edition 2018-11
- For flame-retardant materials - the burn rate shall not exceed 200 mm/min as tested in accordance with ISO 3795.