

In the line of fire pressure equipment

What's the risk?

If a piece of pressure equipment fails and bursts violently apart, the results can be devastating and severe to the people and equipment in its vicinity.

Depending on the level of pressure and type of system parts of the equipment could also be propelled over great distances, causing injury and damage to people and buildings hundreds of metres away

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The main hazards from **pressure** are:

- impact from the blast of an explosion or release of compressed liquid or gas
- impact from parts of equipment that fail or any flying debris
- contact with the released liquid or gas, such as steam
- fire resulting from the escape of flammable liquids or gases

Some examples in our business:

- Live water mains
- Air Compressors
- Air lines
- Water pumps
- Storage Tanks
- Boilers and boiling systems
- Hydraulic systems (hoses, pumps, valves etc.)
- High pressure water used for jetting
- Pipework (offices & buildings)

Controlling and managing the risks

Risk assessment – Is there a risk? Who is at risk? What can be done to control it? Is it enough?

- The first stage in managing risks associated with work under pressure is identifying the items and systems that are likely to cause harm and who could be at risk. Do you work with pressure?
- It is then important to understand how the risks can be controlled. Designers and manufacturers have a duty to build in safety measures wherever possible and will



provide clear guidance on the safe operation of the pressure system. Depending on the types of system this may be enough or additional control measures will be required for any work with the system such as a safe system of work, training, supervision and PPE (see below).

- For any work involving pressure it is important that the risk assessment is recorded so that everyone can look back at it and understand the risk but also so that it can be reviewed as the business changes and new products, processes and ways of working come about.

Following a safe system of work

Where the risk of pressure cannot be taken away completely it is essential there is a safe process in place to minimize the likelihood of harm coming to you or anyone else who could be harmed. This may include:

- Permit to work systems. In some cases it is possible to turn off or reduce the pressure when carrying out work directly on the system to avoid anyone being in the line of fire.
- Physical barriers. Sometimes a physical barrier can be placed between any person and the system when required
- The appointment of specifically trained and competent personnel to carry out all work on the piece of pressure equipment
- If you are unsure what the safe system of work is that applies to your work activity you must speak to your line manager and safety team for information and guidance.

Dynamic risk assessment

No two jobs are the same - the activity, location and pieces of equipment appear not to have changed it is important never to make assumptions. We should all continually assess risk before, during and after a work activity. Weather, temperature, time of day and individual approach can all effect the levels of risk in a job and may trigger a requirement for additional control measures.

Personal Protective Equipment

Our minimum standard for PPE is in place to protect all staff from the hazards most common in their work activity. On some occasions additional PPE will be required in order to carry out specific tasks. This may include protective goggles, full face protection, protective overalls or different types of hand protection.



Servicing, inspection and maintenance

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Key messages

If you are in the line of fire when working with pressure and the equipment fails the consequences can be fatal and far-reaching.

Familiarise yourself with any pressure equipment in your workplace and work activities and ensure you know a) what the risks are and b) how to keep yourself, your colleagues and the public out of the line of fire.

If you are in any doubt please discuss with your line manager and safety team immediately.

Further information and reference documents

- TW HSP 9 Statutory Inspections of Plant and Equipment
- HSE guidance - <http://www.hse.gov.uk/toolbox/pressure.htm>