

Working on Installed Systems

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Hazards encountered on site

- Electricity
- Working at height
- Hot/cold surfaces
- Asphyxiation/Toxicity
- Flammability (refrigerants, oils, acetylene, paint, glue, buildings)
- Lifting and moving equipment
- Slips, trips and falls
- Working around other workers
- Decommissioning

Maintenance takeover – a special case

- Original design
 - Is it safe?
 - Was it ever safe?
 - Is the access to work points adequate?
 - Did it work as intended?
 - Is it big enough?
 - Are there enough safety devices/shut off valves?
 - What type of oil is used?
 - Is the oil management system adequate?
 - Can liquid be trapped between valves?

Maintenance takeover – a special case

- As installed
 - Is it safe?
 - Was it ever safe?
 - Is the welding/brazing to a suitable standard?
 - Is the original design properly documented?
 - Is the maintenance and repair history documented?
 - How is oil management achieved in practice?
 - Are the safety systems compliant?
 - Are the electrical panels safe to work on?

Maintenance takeover – a special case

- In operation
 - Is it safe?
 - Was it ever safe?
 - How do the plant controls operate?
 - What are the consequences of poor/no maintenance previously?
 - Does oil drain from the system or is it clogging the evaporators?
 - What are the consequences of previous site attitudes to health and safety?
 - Does the plant suffer from liquid hammer (expansion valves/defrost etc)?
 - What condition are the cold store ceiling panels in?
 - Is there any evidence of corrosion under insulation?
 - Are the safety devices functional and in good condition?

Maintenance takeover – a special case



Two key principles

Expect the
Unexpected



Assume it's
Broken

(until you have
proved otherwise)



Two key principles

Is It
Safe?



Was It
Ever Safe?



- Imagine that you have taken over a site maintenance contract and you are walking the site for the first time.
- Write down one thing that could present a hazard to your staff that has not been mentioned so far in this presentation....

