HSE
Health and Safety Executive

OCE11

Breaking containment – non-hydrocarbon lines

Offshore COSHH essentials

This information will help offshore dutyholders (owners, operators and contractors) to comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended, to protect workers' health.

This guidance consolidates good control practice and reinforces existing knowledge with additional information.

It will help you carry out COSHH assessments, review existing assessments, deliver training and in supervising activities involving substances hazardous to health.

It is aimed at staff whose responsibilities include the management of substances hazardous to health on offshore installations (eg occupational health specialists, COSHH assessors, supervisors etc). It is also useful for trade union and employee safety representatives.

Following this guidance is not compulsory and you are free to take other action. But if you do follow this guidance, you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

Also see essential information on the back of the sheet.

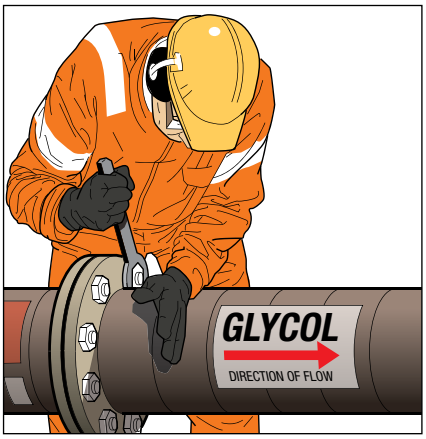
Control approach 1

General ventilation

What this sheet covers

This sheet describes good practice for opening non-hydrocarbon lines. It covers the key points you need to follow to help reduce exposure to an acceptable level, as part of your COSHH assessment.

Hazards



- ✓ Non-hydrocarbon lines can contain ethylene glycol, biocides, scale inhibitors etc.
- ✓ Health risks include cancer, genetic damage, reproduction effects, and sensitisation by inhalation or skin contact.
- ✓ Gas lines, eg nitrogen, can give rise to an asphyxiation hazard.

Access and equipment

- ✓ Erect barriers and notices.
- ✓ Restrict access.
- ✓ See sheet OCM1 if work is in a confined space.

Planning and procedures

Planning

- ✓ Define the isolation standards and routines for draining, purging and venting.
- ✓ Provide for drainage to appropriate drains, eg closed drains.
- ✓ Provide for gas venting to a safe place, eg a flare stack or cold vent.
- ✓ Establish emergency procedure.

Control equipment

- ✓ In poorly ventilated areas, provide enough fresh air to dilute and remove air contaminants.
- ✓ Provide portable/personal detectors where hazardous gases or vapours can be emitted.
- ✓ Provide a spillage clean-up kit.
- ✓ Provide eyewash equipment and an emergency shower close to the work site.

Control procedures

- ✓ Isolate the line for safe opening.
- ✓ Connect via valves and lock the pipework to the appropriate drain. Purge and drain the fluids.
- ✓ Vent pressurised gases to a safe place.
- ✓ Prove isolation. Carry out pressure build-up (PBU) checks.
- ✓ If necessary, have the authorised tester perform the gas test.
- ✓ Workers should break joints gently. In the event of an unexpected release, workers should evacuate the area immediately and raise the alarm.
- ✓ Fit 'Disturbed joint' tags on broken joints
- ✓ Test for leakage on remaking the joint.

Personal protective equipment (PPE) – see OCM3

- ✓ Provide portable/personal alarms where hazardous gases or vapours can be emitted.
- ✓ Respiratory protective equipment (RPE) is not normally needed.

Other protective equipment

- ✓ Where necessary, provide additional eye protection (visor or goggles).
- ✓ Provide disposable coveralls (Type 6).
- ✓ Provide clean chemical-resistant gloves, eg nitrile, and new gloves when these are damaged.
- ✓ Discard gloves at the end of the shift.

Maintenance, examination and testing

Checking and maintenance

- ✓ Make and follow schedules for preventative maintenance of plant and monitoring equipment.
- ✓ Before each use, check that portable/personal gas monitors are fully charged and working properly.
- ✓ Check for signs of damage to control equipment before starting work.

Records

- ✓ Keep records of all examinations and tests for at least five years.

Personal monitoring

- ✓ Monitoring is not normally necessary.

Cleaning and housekeeping

- ✓ Place a temporary bund to contain any spillage.
- ✓ Clear up small spills with inert absorbent pads. Dispose as hazardous waste.
- ✓ Label bags of dirty clothing to warn the laundry about the hazard.

Waste

- ✓ Drain liquid residues to appropriate drains through hoses and valve connectors.

Employee checklist

- ☐ **Are you sure about safe work procedures?**
- ☐ **Is the equipment in good condition and working properly?**
- ☐ **Is your portable/personal alarm fully charged and working properly?**
- ☐ **Is your respirator working properly? Check it every time.**
- ☐ **Look for signs of leaks, wear and damage before every job.**
- ☐ **Do you have a spill clean-up kit handy?**
- ☐ **If you find any problem, get it fixed. Don't just carry on working.**
- ☐ **Use, look after and store your PPE in accordance with instructions.**
- ☐ **Discard single-use gloves every time you take them off. Discard other gloves at the end of the shift.**
- ☐ **Wash hands before eating, drinking or using the lavatory.**

Personal decontamination and skin care

✓ Provide warm water, mild skin cleansers, nailbrushes, and soft paper, fabric towels or hot air for drying. Avoid abrasive cleansers.

✓ Provide pre-work skin creams, which will make it easier to wash dirt from the skin, and after-work creams to replace skin oils.

Caution: 'Barrier creams' or 'liquid gloves' do not provide a full barrier.

Training and supervision

✓ Provide supervision – ensure that safe work procedures are followed.

✓ Tell workers, including maintenance workers, what the hazards and risks are.

✓ Training includes toolbox talks on:

- following safe working procedures
- how to react to alarms and evacuate safely;
- how to use RPE and check that it is working;
- how to clean up spills correctly; and
- what to do if something goes wrong.

✓ Involve managers and supervisors in health and safety training.

Essential information

OCE0 *Advice for managers*
OCM1 *Confined spaces*
OCM3 *Personal protective equipment (PPE)*
OCE14 if mercury is present
OCE6 if hydrogen sulphide is present
ORE1 if NORM is present
IP code for hoses
IP code for breaking flanges

Other hazards

- Flammability
- Residues that may catch fire spontaneously
- Hydrogen sulphide (H_2S)
- NORM (naturally occurring radioactive material)
- Mercury
- Substances harmful to the marine environment
- Asbestos gaskets

Further information

Developing process safety indicators: A step-by-step guide for chemical and major hazard industries HSG254 HSE Books 2006 ISBN 978 0 7176 6180 0 www.hse.gov.uk/pubns/books/hsg254.htm

Asbestos essentials www.hse.gov.uk/asbestos/essentials/

You can find the full Offshore COSHH essentials series at www.hse.gov.uk/coshh/index.htm

This guidance was developed by representatives from the UK offshore oil and gas industry and trade unions, with HSE.

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