

Hazards & Precautions Book

we are
the **network**

February 2025

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Introduction



Introduction

The Hazards and Precautions Booklet

Northern Gas Networks are responsible for providing a safe workplace, work equipment that is safe and appropriate for the work being completed, safe procedures and systems of work. An important part of this is making sure that any risk associated with our work activities are identified, assessed and controlled.

We all have a part to play in making sure that NGN is a safe place to work, and we each need to take responsibility for safeguarding ourselves, other people and the environment whilst at work, by following company procedures and highlighting concerns or areas for improvement. We must ensure that we are familiar with the health, safety and environmental issues in our area of work, and make sure we all understand the risks associated with the operations and activities that we are responsible for.

To help you deal with the hazards you are likely to encounter on site, NGN has developed the **See it , Stop, it Say it process. See below.**

The Hazards & Precautions booklet is an important part of this process and details the precautions that must be taken to manage the various operational health, safety and environmental hazards that you could encounter.

Use the indexes to locate relevant information, either by individual topic or by finding the topics which are typically associated with a particular activity.

The Activity Index should be used as a guide – it may not include every eventuality experienced on site. If you are unsure of potential hazards or risks on site, or find that you require more information, contact your manager.

Identifying / Reporting Hazards

If you identify a hazard, you must ensure the hazard is removed, or that adequate precautions are put in place to **E**liminate, **R**educe, **I**solate or **C**ontrol the hazard. This must only be done where you consider it safe and practical to do so. If you are in any doubt; **Stop** and immediately refer the hazard to your supervisor / line manager. Identified hazards should be recorded on local paperwork and identified to those working on or attending / visiting site. Likewise, should site conditions change and present new hazards this should also be recorded.

Controlling Hazards

Remember **ERIC** and apply the principles below in the following order:

- a) **E**liminate the hazard by doing the job in a different way or by substituting for something less hazardous.
- b) **R**educe exposure to the hazard by re-organising the way the job is done.
- c) **I**solate and prevent access to the hazard by enclosing it or by providing guarding.
- d) **C**ontrol the hazard, e.g., by using written procedures that are well known and understood by those affected.

You have been briefed on the risk assessments covering your work activities.

This booklet is a reminder of that information.

The information within this booklet does not replace that contained within company EH&S procedures. It is intended to be used as a quick on-site reference. You should be aware it does not cover all circumstances. Work should always be undertaken within your own individual capabilities and training, and in accordance with procedures. If you are in any doubt, contact your Line Manager.

Before leaving site, further attendance is required for the job at this location, it is important that you pass on any information about hazards that may help those who subsequently attend.

Injury, Incident, Near Miss and Hazard Reporting

Always ensure injuries / incidents or near misses are reported and recorded so they can be prevented from happening again.

INCIDENT REPORTING

for investigation, data management
and first stage HSE interface

INJINC 07837 557451 | injinc@northerngas.co.uk

All incidents, for all workstreams within NGN, MUST be reported to INJINC as well as line management (and Dispatch, VLS, ALD where relevant). **If in doubt – report it ANYWAY!**

Main incident types - but this list is not exhaustive

Fire +/- explosion
Dangerous occurrences
Injuries & First Aid
Injuries to Members of the Public incurred through NGN activities
Electric Cable Damages
Road Traffic Collisions (blameworthy and non blameworthy)
Dangerous Gas Fitting and CO (by Emergency workstream only as part of process authorising RIDDOR)
Near misses
Environmental near misses
Theft / Attempted Theft.

Leave message on INJINC reporting line. For major categories: within an hour of the incident .

For others: **at latest within 24 hrs of incident.**

Every attempt is made to answer this line during office hours. If not answered and / or outside office hours please leave a **comprehensive** voice mail stating who, what, where, when and what has been done)

Ref: INV1 Reporting & Investigation of Injuries and Gas Related Incidents available on Standards web site.

Key Definitions

DEFINITIONS

Non-Lost Time Injury:

Any injury to an NGN colleague or contractor arising out of or in connection with work carried out by or on behalf of NGN not resulting in lost time, which meets either the following criteria:

- 1 – **Medical Treatment** - Injuries to NGN colleagues or contractors which require specialist treatment from a medical professional that could not have been completed by a qualified first aider.
- 2 – **Restricted Work** - Injuries to NGN colleagues or contractors which do not result in lost time, but where injuries prevent the IP from undertaking their substantive role.

Lost Time Injury:

Any injury to an NGN colleague or Contractor arising out of or in connection with work being carried out by or on behalf of NGN leading to them being unable to work their next shift and resulting in lost time.

Near Miss:

Any event that could have resulted in injury to persons, damage to plant and equipment. An environmental near miss in which there was potential for spillage or release to the environment. although no actual spillage or release occurred. Any activity which, if allowed to continue could have had the potential to cause an incident.

Environmental Incident (Minor):

Any occurrence in connection with work carried out by or on behalf of NGN that resulted in either: -

- 1 – A spillage of hazardous liquid that is contained and does not enter a drain, watercourse or into the ground
- 2 – An accidental release of under 200 tonnes of natural gas.
- 3 – An accidental release of less than 20 tonnes of solid.
- 4 – An instance of fly-tipping on NGN land that costs less than £100k to remove.
- 5 – An environmental complaint, for example concerning nuisance, noise, odour, or dust.
- 6 – A breach of NGN's environmental Procedures

Environmental Incident (Significant):

Any occurrence connected with NGN's operations that resulted in the Regulatory Authority indicating that the environmental incident will lead to a prosecution, or a warning, enforcement or prohibition notice being served. Any breach of environmental legislation, permits, or harm to a sensitive sites, buildings, habitats or protected species, or working without the required authorisation.

Any occurrence above the minor limits above.

Any liquid release over 1,000 litres.

Any release of odorant.

Any incident requiring remediation, restoration, clean up with costs over £100K.

Any occurrence that may harm the reputation of NGN through national media coverage, or viral social media coverage.

Hazard

An unsafe act or unsafe condition that has the potential to cause harm.

Risk

Risk is the possibility of something bad occurring. It is sometimes expressed as Likelihood x severity.

See it, Stop it, Say it.

Report injuries, incidents and near misses.
immediately to your line manager and to INJINC
via the reporting line **07837 557451**
or email: injinc@northerngas.co.uk



Hazards are recorded on local site-specific risk assessments.

Agency staff and contractors employed via the company; must also ensure they follow this procedure.

Remember, Today's Near Miss may be Tomorrow's Incident!!

Your Work Hazard Assessment

Stop – take a minute to.....

Think – about each stage of the activity:

- Have I identified all the hazards on site?
- Are all of the hazards familiar to me and can I control them?

Act – apply your control measures:

- Use your training.
- If you have any doubts, contact your manager before starting work.

Review – continually review site conditions, as they will change.

IF YOU CAN'T DO IT SAFELY, DON'T DO IT AT ALL.

Look after yourself, your colleagues, the public and the environment.

Think about whether any of the following potential hazards could harm anyone, or the environment, and whether you are doing enough to control them:

- Gaseous Atmospheres
- Confined Spaces
- Excavations
- Underground Services
- Working at Height, Falling Objects
- Slips, Trips, Falls
- Manual Handling
- Plant, Tools and Equipment
- Lifting Equipment and Operations
- Substances Hazardous to Health
- Substances Hazardous to Environment
- Asbestos
- Storage of Materials
- Electricity
- Transport (public and site)
- Noise and Vibration
- Waste Materials
- Contaminated Land



Transfer of Safety Critical Information at Job Handover

Summary of Requirements

- Before work **'STOP, Take a Minute'**. Refer to any safety critical information codes provided from previous work.
- If it is evident that this site is part of ongoing company work (e.g. recalled to existing escape excavation) you must contact the call centre to obtain Safety Critical Information codes. If no current information is available, report this to your Line Manager **immediately**.
- Identify whether any of the listed Safety Critical Codes (see over) or other significant hazards, apply to your activities at this site. For codes **H01 to H07, H11, H13 to H18, H99** or if any doubt at all, contact the Line Manager to agree safe system of work as required.
- If any further attendance is required for this job at this location, you must record all relevant codes on Leakage Investigation Sheet (LIS) (ref. EM72) in the comments section and update records electronically, including Safety Critical Information Codes in comments field before leaving site. If you are not able to update records electronically whilst on site, you must contact the call centre to enter Safety Critical Information Codes in the comments field of the job record. If none of the other codes apply, then **H00** must be recorded.
- Where a job is being directly handed over to other colleagues, pass on the LIS containing relevant Safety Critical Information Codes. ***This must be signed by the recipient to confirm handover.***

Human Factors

What is 'Human Factors'?

The term 'Human Factors' (HF) refers to the environmental, job and organisational factors and human and individual characteristics which influence behaviour at work in a way which can affect health and safety.

HF is concerned with the interaction between humans and their environment when completing a task; it's about what the person is being asked to do, who is doing it, and where they are working.

HF considers working environments from a human-centred point of view by studying how the whole system influences the way people behave and interact at work.

Why Consider Human Factors?

The cause of accidents and incidents is often attributed to human error however, people rarely make such mistakes on purpose. We're all human, and we all make mistakes and forget things, irrespective of how much training we receive, or level of experience we possess. Humans are great problem solvers, and they're adaptable, and things usually go right because of human involvement, but humans have limited capabilities and can tire, become bored, mis-hear, or mis-understand.

We can't change the human condition but by considering HF we can identify:

- factors which adversely affect human performance
- potential errors that may occur
- solutions to minimise the impact of human errors.

What does taking a Human Factors approach to work involve?

HF aims to assure human performance by ensuring a good fit between people, the equipment they use, the task they carry out and the environment in which they work. Human performance is negatively influenced by factors such as a poor safety culture, unusable procedures, poorly maintained equipment,

lack of training, competence, and supervision. These factors create sub-optimal working conditions and increase the likelihood of human error.

A HF approach involves using HF knowledge to design activities, plant, processes, and procedures to take account human imperfections and make work less vulnerable to human error, enabling trained operators to carry out their designated tasks safely and reliably under normal, abnormal, and emergency conditions.

Safety Critical Information Codes

Code	Safety Critical Information Codes	
H01	Additional person/s required to maintain van security	Inform Line Manager
H02	Increased risk of physical assault at this location	Inform Line Manager
H03	Increased risk from dangerous animals at this location	Inform Line Manager
H04	Site requires special security fencing to protect public (e.g. prone to vandalism)	Inform Line Manager if not present / correct
H05	Site requires special traffic precautions (e.g. bend on high-speed road, traffic lights, etc)	Inform Line Manager if not present / correct
H06	Cannot position vehicle close enough to the site to use BA	Inform Line Manager on first occasion at site and if conditions change
H07	Cannot access or exit excavation site safely	Inform Line Manager
H08	Oil pipeline nearby (within 3m)	Inform Line Manager
H09	Identified biological hazard (e.g. sharps, discarded needles, evidence of rats, damaged sewer)	
H10	Asbestos (including a cementitious main) is suspected to be present on site	Inform Line Manager
H11	Work may significantly increase risk to safe operation of railway system either directly or as a result of traffic accident	Inform Line Manager
H12	Cables identified, but not visible in excavation	
H13	Shuttering required before repair attempted	Inform Line Manager if not present / correct
H14	Water ingress undermining trench walls or plant	Inform Line Manager on first occasion at site and if conditions change
H15	Excavation in contaminated ground	Inform Line Manager on first occasion at site and if conditions change
H16	Risk of collapse of wall, building or other structure from excavating	Inform Line Manager
H17	Excavation equal or greater than 1.2m deep	Inform Line Manager
H18	Damaged 3 rd Party plant in the excavation	Inform Line Manager
H99	Any other identified hazards, where normal precautions are considered to be insufficient	Inform Line Manager
H00	None of the above apply – procedures to be followed	

Continue to record code as long as issue remains relevant.

A to Z of Hazards

A to Z of Hazards



Alcohol and Drug

Misuse



Contractors and agencies are responsible for ensuring that their own employees, any agency employees and sub-contractors are aware of, and abide by, the requirements that apply within this Policy when working on behalf of NGN. Northern Gas Networks wants to be a safe and responsible company regarding its people, the environment and the communities it serves. Alcohol and drug misuse can have an adverse effect not just on an individual worker but on their colleagues, customers and the public.

Having a safe working environment, providing excellent customer service and being able to make sound business decisions are all critical to our success.

Whilst we have concerns for colleagues who abuse alcohol and drugs under any circumstances, we have a responsibility to ensure that the lifestyle of colleagues does not have an adverse effect on their work. Misuse of alcohol and drugs can harm lives and seriously disrupt relationships.

See NGN Policy Alcohol and Drugs Misuse

Animals



NGNs People and Planet Strategy commits us to 'Enhance life on land' minimising our environmental impacts and making a positive contribution, wherever possible, including enhancing biodiversity. You can help NGN achieve this commitment by following this guidance:

General

All wild birds, mammals and domestic pets can cause injury, particularly if frightened.

If you are required to approach, handle or rescue an animal, then you must wear PPE i.e. gloves, dust mask, goggles, etc.

- If you are bitten by an animal, you must seek medical attention and report the incident to your Line Manager.
- If you suspect you have an infection or disease as the result of contact with an animal, you must seek medical attention and inform your Line Manager.

Where necessary you should call the RSPCA on 0300 1234 999 for further assistance when dealing with any animal or seek advice from an ecologist.

Excavations and the Environment

It is preferable to cover excavations overnight, and when unattended, to avoid animals being trapped within them.

Where excavations are required to be left open and unattended, i.e. overnight, it is good practice to leave a means of escape from the excavation in case animals enter to avoid them being trapped, especially in wet conditions where drowning is possible. Refuge pile or a ramp.

Vermin

Good standards of housekeeping should be employed at depots, offices and work sites, so as not to attract vermin. All waste, in particular food waste, should be appropriately stored in a suitable, solid container i.e. bagged and kept in a covered skip.

Domestic Pets

Before you enter a property, ask the owner to lock away any pets for the duration of your visit.

Livestock

If you are required to carry out work where there is potential for interference from livestock, you must contact the farmer, and if necessary, agree arrangements to relocate the livestock during the period of the work.

Disease such as foot & mouth, bird flu etc. may not always be apparent, especially in its early stages.

Ensure you, your vehicle and tools are free from mud / manure when entering and leaving sites where animals are or have been present, especially if you have come into contact with animals, or you intend to move between different sites.

Where there is no outbreak of disease:

Those who visit or have right of access through sites with farm animals, should.

- Respect the legal boundaries and notices of the site.
- Use any facilities provided to clean mud / manure off footwear and vehicles (wheels, wheel arches, etc)
- Avoid direct contact with animals.
- Wash hands as soon as possible after coming into contact with animals.

During an outbreak of disease:

In addition to the above points, during a notable outbreak of disease the following biosecurity measures **MUST** be adhered to:

- **DO NOT** visit affected sites unless absolutely necessary.
- Follow any security measures put in place by DEFRA.
- Minimise the people, plant, equipment and vehicles into the area.
- Official signs and access closures / restrictions must be respected.
- Upon entering or leaving a site, all visible traces of mud, slurry and animal faeces, or similar matter, must be removed from a vehicle and/or trailer. The vehicle / trailer must be cleansed and disinfected on the outside and underside, along with any part of the vehicle which may have made contact with animals.
- Persons entering or leaving a site must cleanse and disinfect the outer surfaces of their footwear as well as any other clothing which is visibly contaminated with mud, slurry, animal faeces or similar matter.

See ICE Sheet 34

Protected Animal Species

General

Many of Britain's wild plant and animals are protected by law.

The places these animals use for shelter and protection (i.e. bird's nest, when it is in use or being built, an otter holt, a bat roost) are also protected.

It is an offence intentionally or recklessly to disturb birds and other protected animals when they are using such places.

The rare birds are listed in a schedule of the Wildlife & Countryside Act and include the Red Kite.

NGN are committed to enhancing and protecting life on land.

Care should always be taken to minimise the effect our work has on flora and fauna, regardless of its protection status.

Mammals

The following mammals are present in NGNs network area and are protected by law as Protected Species.

- Badger.
- Bats.
- Pine Marten.
- Red Squirrels.
- Water Voles.
- Otters.

In summary, it is illegal to wilfully kill or injure them or to damage, destroy or prevent access to badger setts, bat roosts, otter holts, red squirrel dreys or burrows.

There is a further offence of interference with any of the above that shows sign of current use.

If works are to be carried out that may be in danger of interfering with the above, appropriate measures should be put in place. These may include obtaining a licence from Natural England and obtaining specialist advice from an ecologist. If any of the above animal shelters are identified during works, work should be stopped if it is likely to disturb them, and the EHS Team contacted to ensure that appropriate measures are put in place.

For emergency work, keep disturbance within 10m of the area to an absolute minimum, including vehicle and equipment movements, noise, lighting and excavation sizes. Hand tools used where possible, call for ecological advice or arrange supervision. If not possible during the emergency, e.g. gas leak blowing below a nest, use best efforts with gloves to move the species/ nest, this should be last resort.

Contact the EHS Team at the earliest opportunity to ensure that appropriate measures are put in place, and any notifications to regulators are made.

Pine Marten



Water Vole



Birds

All birds, their nests and eggs are protected by law, and it is an offence to intentionally, at any time:

- Kill, injure, or take any wild bird.
- Take, damage, or destroy the nest of any wild bird whilst it is in use or being built.
- Disturb any wild bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

The highest likelihood of nests being present and in use is between the 1st of March and the 31st of August.

Birds Nest Removal: Psittacosis

Also known as parrot fever and ornithosis.

Is spread by bacterial infection of birds and can cause severe pneumonia and other serious health problems for humans. Infected birds shed the bacteria through faeces and nasal discharges, and humans become infected from exposure to these materials.

Transmission has been documented from free ranging birds such as doves, pigeons, birds of prey and shore birds.

Infection with Psittacosis usually occurs when a person inhales the organism, which has become airborne particles from the faeces or respiratory secretions of infected birds.

The main risk when clearing bird nests appears to be from inhaling dried faeces.

Nests should be removed raising as little dust as possible, or where the nests are thoroughly wetted before removal to stop dust being generated.

The waste generated should be bagged, sealed and disposed of as general waste unless generated in significant quantities.

Birds Behind Gas Fires

If you are called to rescue a bird or other animal trapped behind a gas appliance which you can safely remove, you must:

- Advise the householder to leave the room.
- Prepare the room to prevent damage.
- Locate the biggest opening window and open it as wide as it will go.
- Shut all doors adjoining the room.
- Remove the appliance but beware of sharp edges.
- Stand back and allow the bird / mammal to escape.

If the bird is injured or weak, contact the RSPCA.

Amphibians

The great crested newt and natterjack toad, and their habitats, are protected by law. You are most likely to encounter great crested newts. As amphibians, they spend most of their life out of water.

It is an offence to kill, injure, disturb or capture a great crested newt, or to damage, destroy or obstruct places (including ponds) where great crested newts rest or breed.

Before work near ponds is carried out the likelihood of great crested newts should be considered, and an ecological survey carried out, if necessary. If a great crested newt is identified during works, then work should be stopped, and appropriate measures put in place.

Contact the EHS Team or an ecologist for more support in this area.

Great Crested Newt



Reptiles

All reptiles native to the UK are protected by law. It is an offence to kill, injure, disturb or capture a reptile or to damage, destroy or obstruct places where reptiles rest or breed.

These reptiles include grass snakes, adders, slowworms and common lizards, all of which are found in NGN's geographical area.

Snakes

The only venomous snake native to mainland Britain is the Adder, although its bite is rarely fatal. It is commonly found on heaths, woods, among rocks and ruins, on cliffs, in breaks in heath, and mountain slopes.

If you see an adder, do not attempt to move it. If you or a colleague suspects you have been bitten, seek urgent medical advice and report to a hospital immediately. Do not apply a tourniquet or slash the wound with a knife or suck out the venom.

Insect Bites and Stings

Insects do not usually attack unless provoked. In most cases First Aid treatment is all that is required. However, some people are allergic to the poisons in a sting and can rapidly develop an anaphylactic reaction which requires emergency treatment.

If there is an insect nest that requires removing, a third-party pest control contractor should be used to carry out the works. Avoid disturbing the nest, for emergency works add to the risk assessment and barriers blocking visibility around the nest or wearing non-bright colours.



Ticks and Lyme disease

Ticks can spread Lyme Disease which is a bacterial infection spread to humans from infected ticks.

Ticks are tiny spider like creatures found in woodland and long grass, but they can also be found in gardens and parks. Lyme disease can be effectively treated if detected early. Late detection can lead to long lasting symptoms affecting the heart and nervous system.

Most bites happen from late spring to late autumn but can happen anytime of the year.

If you know you have been bitten by a tick and notice any of the symptoms (see below), visit your GP immediately. If you notice any of the symptoms but are unsure if you have been bitten, you should still visit a GP immediately.

Further information can be found on the NHS website or by calling 111.

There is no vaccine available for Lyme Disease.

You can reduce the risk of infection by:

- Keeping to footpaths and avoiding long grass
- Wearing appropriate clothing in long grass: overalls or trousers tucked into socks, long sleeves and use insect repellent.
- Inspecting scalp, neck, ankles and skin folds (armpits, waistband and groin)
- Checking ticks are not brought into the house on clothes or pets.

How to remove a tick:

- Use a pair of tweezers or a custom tool but be VERY careful not to leave the head behind.
- Pull very carefully to remove the tick fully, also avoiding squashing it.
- Wash your hands, apply antiseptic cream on and around the bite area.

The early symptoms of Lyme Disease are:

Early

- 2 in 3 people develop a circular rash similar to a bull's eye, between 3 to 30 days after the bite.
- Tiredness, muscle pain, joint pain, headaches, high temperatures, chills and neck stiffness (all flu-like symptoms).

Late:

These symptoms can develop weeks, months or years after the bite:

- Painful and swollen joints.
- Heart problems such as inflammation, heart block and heart failure.

- Nervous system problems including numbness, pain, paralysis, memory problems and difficulty concentrating.
- Inflammation of membranes around the brain and spinal cord (meningitis) causing severe headaches, stiff neck and sensitivity to light.



Bullseye rash found on 2 in 3 people infected with Lyme Disease

Weil's Disease and Rodents

This is an infection that is transmitted to humans by the contact with urine from infected rats, or workers in contact with canal and river waters. It can also be transmitted from other animals, e.g. dogs, field mice, cattle, and pigs.

It is transmitted via cuts or breaks in the skin, or contact with mucous membranes of the nose, mouth and eyes.

- Always follow good hygiene practice, wear gloves and wash hands before meals.
- Cover any cuts or abrasions with a waterproof dressing and wear gloves.
- Wash splashes to the eyes with clean water.

Symptoms of infection include:

- Flu-like illness.
- Persistent headaches.

You should inform your GP of possible exposure if you have these symptoms.



If you have a concern with vermin at a property, liaise with the property owner, or Local Authority, to arrange for pest control. Postpone works, if possible, if works cannot be postponed open as much of the work route you need, i.e.

additional flood boards, panels, this will open the route, deter vermin and allow you to have greater visibility of where you put your hands.

Asbestos Containing Substances



Introduction

Although asbestos is a hazardous material it can only pose a risk to health if asbestos fibres become airborne and then inhaled. ACMs only release fibres when they are disturbed. The fibres are distributed during:

- Any direct action on them e.g. drilling, boring, cutting, breaking, etc.
- During their removal.
- During demolition of buildings containing them.
- When damaged asbestos is subject to vibration or strong air currents.

Prior to undertaking work, you should check for the presence of known ACMs by referring to site / asset records and / or NGNs asbestos register.

The pictures on the following pages indicate where asbestos may be encountered.

Colleagues who are likely to encounter asbestos must be given training to help them identify potential ACMs and anyone working with ACMs must be competent to do so safely.

Certain types of work must only be completed by licensed asbestos contractors, and work may need to be notified to HSE prior to being undertaken.

If you are in any doubt as to what steps need to be taken, please contact your line manager in the first instance.

Where the presence of ACM's is suspected or confirmed, the work must be ceased, and contact made with NGN's licenced asbestos management contractor.

The Dangers of Asbestos

Breathing in air containing asbestos fibres can lead to asbestos related disease. These are mainly cancers of the chest and lungs.

Hazards and Precautions Book

- There is no cure for asbestos related diseases, so it is important that everyone who works with asbestos takes the strictest precautions.
- Inform your line manager immediately if you encounter damaged ACMs or any unexpected asbestos products.

Working on Asbestos Mains

The presence of asbestos mains will normally be indicated on network records. You should be aware that there may be asbestos mains which may have not been recorded, including abandoned mains.

Information may not be available if you are called out to an escape.

Asbestos mains operated by other utilities may also be encountered during excavations. If you suspect there may be asbestos mains, consult your line manager before starting work, who should refer to **NGN/PR/ASB2 – Undertaking Work on Asbestos Mains**.

Non-Domestic Premises

In non-domestic premises, there is a legal requirement for the occupier to inform you if there is asbestos present and its location.

Domestic Premises

If you encounter suspected asbestos material, stop work immediately and consult your manager.

Asbestos Products Most Encountered at NGN



Asbestos Mains



Corrugated roofing / cement sheeting



Compressed Asbestos Fibre Joints (CAF)

Replacement of CAF Joints

Hazardous dust is unlikely to arise when asbestos joint rings are replaced if you take the following precautions:

- Prior to removal of the gasket, wear an approved Half mask with asbestos rated filter, thoroughly dampen the gasket with water and remove in one piece, if possible.
- Wear appropriate disposable PPE e.g. overalls.
- If pieces of gasket remain, thoroughly dampen with water prior to scraping with a sharp tool.
- Clean up the area using damp cloths.
- All waste material, including cleaning cloths & PPE should be double bagged in polythene bags, sealed and suitably labelled to indicate the presence of ACMs.
- Asbestos removal of known ACM's must be undertaken under the supervision of a qualified and competent asbestos management company.



- We can't remove asbestos anymore ourselves as we are no longer Cat B licenced for non-licenced asbestos removal works.

Management of Asbestos Waste

All asbestos (whatever quality) must be disposed of in accordance with the Hazardous Waste Regulations.

Asbestos waste created by specialist contractors, employed to handle such materials, will be disposed of by the contractor.

Asbestos waste generated by the company must be managed as follows:

- Asbestos waste should be retained within an appropriate asbestos bag (red), which must be fully sealed. The bag must then be placed inside a second similar bag and sealed. Bags must be labelled 'Warning – Contains Asbestos'.
- Double bagged waste must be stored within lockable containers, either at site, or at the operational unit, until a licensed contractor can be engaged to dispose of the waste.
- Persons / Contractors transporting waste asbestos to a waste disposal site must produce a 'hazardous waste consignment note' for that operation. Waste service providers can provide these if assistance is needed.

NGN has an approved and licenced asbestos management company who operate as part of an ongoing contract with the business and are on hand to provide advice, guidance, sampling and asbestos survey's where concerns are identified or raised.

If fibres are suspected in Spoil, stop works, arrange sampling, keep the waste damp (but not soaking) and covered until analysis is confirmed. Consult EH&S for advice, a third party may be needed to complete the works.

Asbestos Waste

NGNPM EHS108 Asbestos - Gives summary information on Hazards, precautions, storage, transport, re-use, re-cycling, disposal, emergency action, first aid and fire.

For further information contact your supervisor or line manager.

See NGN/PM/EHS/108 Prevention of Exposure to Asbestos

See ICE Sheet 031

Bar Code Reading Equipment (Lasers)

Bar code reading equipment contains a Class II Laser which operates using visible light – typically red. Class II Lasers can cause injury if directed at the eyes for prolonged periods. You must only use a Remote Data Capture (RDC) gun if trained and competent to do so. The RDC gun must be used as close as possible to the bar-coding label to minimise reflection. If the bar-coding label is

encapsulated, you must avoid looking directly at any reflection of laser light from the label.

Bar-Holing Tools

Only use approved vertical and horizontal searcher bar-hole tools which conform to GIS/E8:2006.

Prior to use the tool should be visually inspected to ensure that there are no defects, e.g., split or worn insulation, damaged or blunt point, damaged shaft, free moving pin, that is has an in-date electrical test label, for vertical bars the retaining screw must be present, operable and retains the spike.

If defects are found the equipment MUST not be used, a replacement sourced and returned to the depot to be quarantined.

Bar-Holing Tool Operation

- Consult other utility information, if available, before bar-holing
- Use visible indicators of plant presence to determine likely presence and routing e.g. lamp standards, surface covers, etc. which may be lifted to determine the direction of cable ducts.
- Use an approved Cable Avoidance Tool, in all modes, before bar-holing and mark out the routes of indicated plant on the surface.
- Work with extreme care as plant and cables may be found at varying depths.

Percussion searcher bars, or rock drills, may be used to a penetration depth of 200mm/380mm in footpath/roadways respectively. When on construction sites with unsurfaced footpaths/roadways, these depths should be reduced by an appropriate amount.

Assessment of the surface should be taken prior to the use of the tool to reduce the risk of injury from attempts to penetrate surfaces that are exceptionally hard. PPE shall be worn to help prevent injury to feet, eyes, and hands (and any additional PPE following an assessment of the risks).

The correct posture is with the legs slightly apart; position bar where required, lift impact part of tool and use a throwing action to penetrate surface.

Hazards and Precautions Book

As with any physical activity, it is sensible for the operator to ensure he/she is warmed up before physical exertion – cold muscles are more likely to become torn muscles.

Take regular breaks if continually using bar-holing equipment.

In exceptional circumstances, deeper bar-holing may be required when the depth of surfacing material exceeds the above depths. In such circumstances, a deep bar-holing tool must be used and the instructions and precautions for its use must be followed.

See NGN/PR/TE/H1.2 The use of impact & non-impact searcher bars.

The horizontal searcher bars must only be used within confines of an excavation. It must never be used to penetrate the surface. The probe should be pushed in by hand. The safest positions are at 3 o'clock and 9 o'clock. Percussion searcher bars must never be used for probing in open excavations.

In single person operations rock drills shall not be used. Vertical bar-holing using percussion searcher bars, by single person, will be carried out in all locations other than finished road surfaces. At sites declared 'no trace' bar-holes should be plugged using NGN approved materials.

Batteries (Lead-Acid,

NiCad & Li-ion)



General Precautions

You must:

- Always wear goggles or a visor and chemical resistant heavy-duty nitrile gauntlets when working on lead acid batteries.
- Wherever possible, always use a properly designated, well-ventilated area for charging.
- Remove any metallic items from hands, wrists and neck before working on a battery.

Disconnecting and reconnecting batteries

You must:

- Turn off the ignition switch and all other switches, or otherwise isolate the battery from the circuit.

- Always disconnect the earthed terminal first (often the negative terminal, but not always) and reconnect it last, using insulated tools.
- Don't rest tools or metallic objects on top of the battery.

Battery Charging



- Only charge batteries that are designed to be re-charged.
- Always observe the manufacturer's instructions for charging batteries
- Charging should take place in a well-ventilated area. Do not smoke or bring naked flames into the charging area.
- Make sure the battery is topped up to the correct level.
- Make sure that the charger is switched off, or disconnected from its power supply, before connecting the charging leads which should be connected positive to positive, negative to negative.
- Make sure that the charging leads are firmly and securely clamped in position before switching on the charger. Do not move the clamps while the charger is switched on; always switch off first if adjustment to the clamps is necessary.
- Vent plugs may need to be adjusted before charging. Carefully follow the manufacturer's instructions
- Do not exceed the recommended rate of charging.
- When charging is complete, switch off the charger before disconnecting the leads.

Disposal

- All batteries must be disposed of into the correct waste stream, which are clearly labelled – they must not be disposed of as general waste.
- Lithium batteries must have their terminals taped and kept away from water.

Bottled Gases



You must only use bottled gases and associated equipment issued or hired by the company. You must be trained and competent in their use.

Storage & Use

Flammable and oxidising gases should be stored separately in the open air, in a secured area. Bottles should be transported safely to and from site as directed by suppliers (via Safety Data Sheets) and the following safety guidelines.

Before using the gas bottles and associated equipment, you must:

- Visually inspect the bottles and equipment to ensure there are no defects or damage. If it is not safe to use, do not start work until replacement equipment has been obtained.
- Check contents of gas bottles on attached labels.
- Ensure that suitably rated gauges and control valves are available for use. For care of flexible hoses See **compressed air** section in this book.
- A PTW may be needed if using a blowtorch especially in a potentially combustible atmosphere / confined space.
- Ensure that the area in which the blowtorch is to be used has no combustible material, where practical and is well ventilated.
- Ensure that an atmosphere check is carried out if there is the potential for a flammable atmosphere. **See Hot work.**

When using the gas bottles and associated equipment, you must:

- Wear the appropriate PPE i.e. gloves, steel toe cap boots, flame resistant overalls, full face protection.
- Ensure that the gas bottle is kept in an upright position.
- Ensure that the blowtorch is not left unattended.
- Ensure that a heat mat is used to protect any combustible material from catching fire.

See – Cold Burns.

When you have finished using the gas bottles and associated equipment, you must:

- Visually inspect the bottles and equipment to ensure there are no defects or damage.
- Ensure correct storage and transportation of gas bottles as per **storage & use section** above.

Colour Coding of Gas Bottles

Colour coding for gas bottles includes two main categories – gas cylinder colour codes for the properties of the gas and codes for identifying the gas itself. There may be other warning signs and symbols on a cylinder. Some gases have specific colours assigned to them:

Gas	Colour
Acetylene	Maroon
Oxygen	White
Carbon Dioxide	Grey
Nitrogen	Black
Argon	Dark Green
Helium	Brown

Where gases do not have a specified colour, cylinders are assigned a colour based on the properties of the gas they contain:

Descriptor	Colour
Inert	Bright Green
Oxidising	Light Blue
Flammable	Red
Toxic	Yellow



Colour coding applies solely to the shoulder or curved part of the top of the cylinder and is used to identify the properties of the gas.

Two concentric bands may be used to show where the gas has more than one property.

The body of the cylinder may be coloured for other purposes, most gas companies will select their own colour that will not conflict with the colour on the shoulder.

Breathing Apparatus on Maintenance Activities.



You must ensure that the correct number of sets of Breathing Apparatus (BA) is available at the work site, assembled and ready for use when plant and equipment maintenance is to be carried out in the following situations:

- Entry into decommissioned plant including storage vessels, pipes, gasholders, or other such confined spaces.
- Entry into waterless holders, tunnels, below ground pressure reduction installations, interceptors and valve pits.
- Potential confined spaces.
- In situations where restricted access or egress is available and an intrusive maintenance activity is to take place, e.g., where you have to climb over or crawl underneath plant and equipment within a kiosk or housing.
- During purging operations, which involve the use of an inert gas e.g., nitrogen.
- As specified within a non-routine procedure or permit to work and on completion of an on-site risk assessment.

You must ensure that Breathing Apparatus is worn and used when plant and equipment maintenance is carried out in the following situations:

- If gas in the general atmosphere is above 20% LEL and continues at that level following ventilation.
- When an oxygen reduced atmosphere is present (less than 17% oxygen) in a below ground pit or other potential confined space that does not have adequate ventilation.

If you are unsure whether Breathing Apparatus should be available or worn for a specific maintenance activity, stop work immediately and consult your line manager.

If Breathing Apparatus is required at the work site (either assembled and ready for use or in use) a minimum of 2 trained and competent persons must be present.

The total number of trained people present will depend on the activity being undertaken.

Breathing Apparatus inspections must be performed as part of the Quality Monitoring Systems.

If you use Breathing Apparatus at work, you will require a health assessment to ensure your suitability / fitness for this task. Your annual health surveillance appointment will include this.

If your health status changes, in particular, if you develop heart, blood pressure or lung problems, or if you need to take regular medication, you should inform your line manager immediately, they will make a referral for you to speak to Occupational Health.

See NGN/PR/DIS/3.1.1 Breathing Apparatus Use

Cold Burns (Joules Thomson Effect)

Ice may form on vent pipework, gas bottles and downstream of high-pressure regulators, due to rapid de-pressurisation.

If you work in areas where such situations can occur, you must avoid skin contact with severely cold objects and materials as burns can result. Ensure that you wear gloves and cover all skin that could come into contact with the cold objects.

Treatment if you receive a cold burn.

To treat an ice burn, remove the source of cold and slowly warm your skin to bring it back to its normal temperature. To warm your skin:

- Soak the affected area in warm water for 20 mins.
- Repeat the soaking process if needed, taking 20 min breaks between each soak.
- Apply warm compresses or blankets in addition to the warm water.
- Be careful not to use too much heat, which can worsen the condition.

If you develop blisters or an open wound, clean the area and bandage it to help keep it free from dirt or germs. Use gauze that won't stick to your skin. It may also help to apply a soothing ointment to the affected area.

To relieve pain, consider taking an over-the-counter pain reliever. Once your skin begins to heal, you may apply aloe vera, or other gels, to help ease the discomfort.

Seek medical attention if you develop signs of severe tissue damage, such as skin that remains white, numb, cold or hard after you try to gently warm it.

You should contact your GP if you develop symptoms of an infection such as changes to colour of the burn, discharge or a fever.

Compressed Air

Compressed air is often misjudged and not recognised as a hazard because people often think of air as harmless.



CAUTION: SERIOUS INJURY MAY OCCUR!

You must only use compressed air equipment and hoses issued or hired by the company. You must be trained and competent in their use. Hoses & equipment shall only be used for those applications for which they are designed, rated and supplied. Before using compressed air equipment, you must:

- Visually examine hoses and connections. Any defects or damage must be reported. If it is not safe to use, do not start work until replacement equipment has been obtained.
- Do not carry out self-repairs to compressed air equipment.
- Connections must be checked for tightness before pressurising.
- Fit locking collars and anti-whip checks to restrain hoses if they become detached suddenly.
- Ensure the correct source pressure is used and compressed air system is protected by adequate relief valves, maintained and inspected at regular intervals.
- Post hazard warning notices should be used where required.

When using compressed air-equipment you must:

- Wear the appropriate PPE i.e. gloves, steel toe cap boots, eye & hearing protection and dust mask if required.
- Not point at eyes or any other part of the body, or use it to remove debris from overalls, vehicles, or equipment.
- Ensure rubber gait on Air Pick is kept as close to the work as possible to reduce scatter of debris.

When you have finished using the compressed air-equipment, you must:

- Ensure that system pressure is relieved prior to disconnecting the pressurised oil, gas, air and water hoses.
- Tidy up the hoses and equipment when not in use.

Confined Spaces & Restricted Working Areas



Confined Spaces

A confined space is a place which is substantially enclosed (though not always entirely) and where serious injury can occur from hazardous substances or conditions within, or close to, the space (e.g. lack of oxygen)

Examples are excavations, valve pits, gas holders, compressor cabs, lofts, cellars, governor kiosks, manholes, tunnels, transformers, tanks (including circuit breaker tanks), sewage / interceptor drain pits.

Excavations have the potential to become confined spaces and must be engineered out if possible.

Risks to health include:

- Loss of consciousness due to increased body temperature
- Asphyxiation due to high levels of gas, vapours, fume and / or lack of oxygen
- Asphyxiation / crush injuries caused by trench wall collapse. Pressure on the diaphragm and rib cage affects the ability to breathe normally.
- Drowning caused by entrapment and a sudden influx of water into the excavation e.g. from a burst main or heavy rainfall.
- Burns arising from gas ignition or explosion.

Before you start work, you must:

- Decide if your work location is a confined space, or may become a confined space, due to the work being carried out.
- Assess if the work can be done without entering the confined space or by removal of

the hazard e.g. isolation of gas escape and ventilation.

- Carry out a risk assessment to identify all the hazards, including hazards which may arise from work nearby or remotely, and decide if routine methods of work and safety precautions are adequate to work safely.

If you identify that routine methods of work and safety precautions are not adequate, entry into the confined space is prohibited.

You must contact your line manager to agree a safe system of work and you will need a permit to work, if deemed necessary, by risk assessment control measures

Access & entry into any confined space must be restricted no matter what the confined space is.

Emergency Plans

Ensure suitable contingency arrangements are in place during work in a confined space, including. Communications and raising alarm systems must include:

- Between those inside the confined space and those outside.
- Between those on site and off site.
- Management of emergency service and testing of systems.
- Availability of emergency contact details
- Action required on receiving alarm.

Rescue Systems

These must include appropriate resources and equipment available to carry out rescue of potentially unconscious person without endangering rescuers.

Restricted Areas (including working under floors)

Before working in a restricted working space, you must:

- Ensure that sufficient working room is available to carry out the task.
- Ensure that there is suitable and sufficient lighting and ventilation.
- Ensure that entry and exit routes are within easy reach and are unrestricted.

Before working under a floor, you must:

- Ensure that an atmosphere test is carried out to ensure there is no flammable atmosphere present.
- Ensure that there are no loose and trailing cables e.g. Electricity, intruder alarms, CATV etc.
- Ensure that there is no flammable material present if soldering work is to be carried out e.g. lagging on pipes.
- Ensure that there is no asbestos lagging on pipes.
- Locate and be aware of water pipes and waste pipes.
- Locate and be aware of debris e.g. discarded bricks and rubbish.

Under certain conditions, working under floors may require separate risk assessment under the Confined Spaces Regulations 1997

When working under a floor or restricted space, you must wear the appropriate PPE for the environment and task e.g. head protection, gloves, coveralls, dust mask, safety footwear and knee pads to prevent cuts, lacerations or bruising to the knee joint.

See NGN/PM/EHS/18 Safe Working in Confined Spaces

Contaminated Land



NGN is committed to protecting the environment and making a positive contribution where possible. We should consider the environmental aspects of everything we do. You can help NGN achieve our five Environmental Strategy Commitments in particular 'Enhance Life on Land' by following the guidance below:

Contaminated land can be defined as land which contains hazardous substances in sufficient concentrations to have the potential to cause harm to those carrying out work, particularly during excavation work, and the potential to cause damage to the environment e.g. water course and animal habitats.

All land which is a former gasworks may be contaminated. NGN maintain a register of all such known sites and these sites have a red

warning marker on the GIS maps system. There is potential that other former gasworks sites could exist that NGN isn't aware of.

If contamination is known (such as on a holder site) or suspected (it may be identified from observations of ground conditions e.g. abnormal colouration or odours, oily liquids) then work must be stopped and you must consult your line manager, as a separate risk assessment may be required.

Guidance must be sought from your EHS Team to ensure the works are undertaken appropriately with respect to safety and environmental protection.

Site survey, sampling and analysis will establish the nature of any impacts and enable specific control measures for the work to be implemented e.g. consider selecting a more suitable area or use a different technology to avoid or limit the extent of an excavation.

Impacts to the environment must be assessed and control measures implemented where the risk cannot be eliminated.

NGN have ground investigation records for many of their former gasworks and holder sites.

All excavated contaminated material must be stored in secure, covered skips to ensure it does not leak and contaminate water courses or release windborne dust or harmful gases into the atmosphere.

Disposal arrangements are as per hazardous waste – **see Waste Management Section**

Should you become unwell, then medical authorities should be advised of the possibility of contact with contaminated soil.

In emergency working scenarios, disturbance of contaminated ground should be kept to a minimum and appropriate PPE worn, including disposal nitrile gloves and overalls.

Excavated contaminated spoil should be stockpiled on thick plastic sheeting (visqueen or similar), banded under the sheeting with a ring of sandbags to contain any run-off and covered with the sheeting to prevent run off.

The EHS Team will need to be contacted at the earliest opportunity to arrange for the contaminated spoil to be disposed of safely.

NOTE:

- No eating or smoking should take place within close proximity of contamination.
- High standards of personal hygiene and use of PPE is required at all times where contaminated land is present, advised by site specific risk and COSHH assessments where required.
- Always cover open wounds and wash hands, forearms and face thoroughly before eating and drinking and before using welfare facilities.
- PPE should be removed before entering welfare facilities or vehicles, to avoid mobilising contamination.
- All tools and equipment which have come into contact with the contamination should be cleaned down at the end of the works before they leave site to avoid mobilising contamination off-site.
- Soiled PPE which cannot be cleaned, and any materials which have become contaminated during clean down / decontamination of equipment (such as rags and cloths) should be bagged up for disposal at the end of the works. NB – If the PPE is soiled with hazardous substances, the waste PPE should be treated as hazardous.

A characteristic ground contaminant associated with former gasworks is 'Blue Billy' which is toxic and has a distinctive blue-black colour and musty / sulphurous odour.

The colour typically stains boots and gloves. It is enriched in several toxic chemicals, including cyanide, and is harmful to health and the environment.

Blue Billy is highly toxic if ingested so do not touch it if encountered.

Contact the EHS Team for advice as further risk assessment will be required.

Display Screen Equipment (DSE)



What is DSE?

DSE is a collective term for visual display units, monitors or other computer and communication devices.

It also covers all mobile items such as smartphones, tablets, etc.

Colleagues based in offices / depots who use DSE for the majority of the day will be required to complete an online DSE Assessment and training. NGN EHS 109 details regarding eye tests, use of DSE in vehicles and referring to occupational health.

The safe use of this technology is covered in the company **NGN/PM/EHS/109 Display Screen Equipment**

Laptops & other mobile technology in vehicles.

- Ensure that you are fully aware of the management procedure for use of DSE in vehicles.
- If a cradle/separate keyboard for tablets is needed to use in your vehicle, please speak to your line manager.
- DO NOT use whilst in charge of the vehicle at all. You must be safely parked up, engine off, before carrying out any tasks on your mobile items.
- Consider your own safety and security – store any items out of site when not in use.
- You have a responsibility to yourself, passengers, and others, to use these items with care.

Driving at Work

Objectives

To avoid road traffic collisions & eliminate injury or ill-health whilst driving on company business, and to minimise NGNs impact on the environment.



Responsibilities of Managers

- Must ensure vehicles provided by the company are fit for purpose (fleet department)
- Must ensure that individual risk assessments are completed for any new drivers, colleagues who are involved in a road traffic collision or if recommended at an STC review.
- Must ensure risk assessments are revised whenever a colleague's individual circumstances have significantly changed.
- Must investigate driving related incidence and near misses to identify root causes, take steps to avoid any reoccurrence and share the lessons learned.
- Must assure themselves that colleagues have the appropriate valid licence and insurance for driving on company business.

Best Practice

- Eliminate journeys wherever practical and schedule work to minimise travel.
- Encourage the use of alternatives where practical.

Responsibilities of all NGN Colleagues

- You must have a valid licence for the vehicle or plant being used.
- You must inform your line manager of any convictions, loss of licence or insurance immediately.
- You must inform your manager of any health issues that may affect your ability to drive safely.
- You must ensure the vehicle or plant is maintained and in a roadworthy condition.
- You must ensure all driving is in accordance with road traffic legislation at all times.
- You are responsible for any fines, offences or prosecutions.

Fatigue

Falling asleep at the wheel accounts for 10-20% of all collisions.

- Never start a long trip when you are already tired.
- Never drive under the influence of drugs or alcohol
- Be aware of the effects of drugs / medication you may be taking .
- Plan your journey time with 15-minute break every 2 hours.

Ergonomics

Good posture is key to preventing back pain.

- Always adjust the seat to your personal requirements.
- Ensure you sit back into the lumbar support of the seat.
- You should be able to press the pedals to the floor and still have your leg slightly bent.
- Do not place bags in the driver footwell.
- Take breaks regularly, get out and walk around.

Noise

Reduce noise levels in your vehicle by:

- Secure any loose objects.
- Ensure regular maintenance is carried out when planned.
- Don't play music too loudly that you have to shout to be heard over it.

The Journey



- Plan your journey with rest breaks.
- Do not drive more than 8 hours in each day.
- Tell somebody your route and expected arrival times.
- Use the 2 second rule to keep a safe distance from the vehicle in front.
- If you are delayed, DO NOT use speed to try to make up time.
- You must adhere to legal speed limits at all times, this includes the legal speed limit of the vehicle and legal speed limit of the road.
- Do not consume food or drink whilst driving.
- Smoking and the use of electronic cigarettes or vaporisers is prohibited by law in any company vehicle.

Mobile Communication Equipment

- You must not use hand-held mobile devices when driving your vehicle.
- Hands free should be used for emergency contact only.
- You must not use headphones, of any kind, whilst driving.
- You must not check emails, social media or texts whilst driving and DO NOT attempt to send any.
- You must not join or partake in any Teams or video call conferences whilst driving.

The Vehicle

- Check your vehicle (tyres, lights, fluid, damage, and fuel) before you set off.
- If it is a new vehicle, ensure you are familiar with where all the controls are and how to use them before setting off on a journey.
- Ensure your seat, head restraint, seat belt and mirrors are all adjusted correctly.
- Check loads are secured and store heavy items such as tools and equipment in the boot or load area.
- Take time to familiarise yourself with a relief vehicle.

Keep the following in the vehicle:

- Torch
- Hi-Vis Jacket or Waist Coat
- Warm clothing, ice-scraper, de-icer (in winter)

Vehicle Emissions

Consider the following to reduce the exhaust emissions from your vehicle:

- Ensure the vehicle is serviced regularly in line with manufacturers guidelines.
- Always switch off engine when not in use to reduce engine idling.
- Use the most appropriate gear related to your speed to minimise fuel consumption.
- Accelerate and brake gently, keep to speed limits and ensure tyres are at the correct pressure.

The Driver

- Do not drive if you know that any medication / drugs / alcohol may impair your ability to drive safely.
- Inform your line manager immediately if you feel fatigued before setting off. If you feel tired whilst driving, stop in a safe place and take a break.
- Caffeine and a 10-minute nap when possible is the best method of staying alert through a long driving day .
- Keep away from other vehicles behaving erratically.
- You must always comply with parking regulations, speed limits, motorway regulations and traffic signs – obey the road traffic law.
- You must not allow ‘unauthorised passengers’ to travel in commercial vehicles – refer to your driver’s handbook.
- You must record and report all company vehicle defects – refer to your driver’s handbook.

Passengers & Pets

- You are not allowed to carry children or pets in a company vehicle,
- Only NGN colleagues / contractors can be carried in company vehicles.
- Non-NGN passengers will only be allowed in company vehicles in case of an emergency.
- You must never carry more passengers than the vehicle is designed or insured to carry.

Parking



In car parks:

- Use well-lit car parks.
- Familiarise yourself with the car parks terms and conditions displayed and obey the rules.
- Choose a safe place to park (in sight of CCTV, etc)
- Always reverse park unless unsafe to do so.
- Always make use of parking aids such as reversing camera, sensors or banks person

On street/site:

- Choose a safe, well-lit place to park up.
- Give consideration to the needs of local residents and do not block junctions and pedestrian crossing points.
- Refer to driver’s handbook for parking commercial vehicles.
- Avoid parking on inclines, if possible
- When parking on inclines, remember to leave the handbrake on, the vehicle in gear and turn the wheels to the kerb.



If your vehicle breaks down

Try to park up in a safe place out of the flow of traffic with hazard warning lights on.

Wear hi-vis clothing when you are out of the vehicle.

On motorways:

- Leave the vehicle by the passenger door.
- Use the emergency phones in preference to a mobile phone as they pinpoint your exact location.
- Tell the motorway control if you are alone.
- If you are unsure about safety when walking to an emergency phone, stay near your vehicle and wait for a police or highway patrol.

- Wait for help outside of the vehicle at a safe distance – if possible, on the other side of roadside barriers or fences.
- If you feel threatened, get into the car, lock the doors and wait for help to arrive.
- Do not accept lifts from strangers.

Security

- Keep valuable items out of sight and do not leave them in the vehicle overnight.
- In slow moving traffic, lock the doors and keep the windows only partly open.
- **NEVER** give lifts to strangers.

If you have an Accident

- Stop and get to a safe place as soon as possible.
- You must obtain 3rd party information and witness details.
- You must provide the 3rd party with your name, vehicle registration, business address and business insurance details.
- Take photographs of the location and all damage, if safe to do so.
- Users of company vehicles should give company details in preference to personal details.
- Report the incident to the NGN reporting line **07837 557 451** and to the NGN Driver Helpline to report the incident to NGNs motor insurance and accident management team.
- Inform your supervisor / line manager ASAP.

Weather Conditions

Always ensure that your vehicle is equipped with the necessary equipment, e.g. small shovel, torch and warm clothing.

In wet weather:

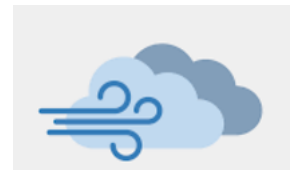
- Stopping distances will be at least double those required on dry roads.
- You should keep well back from the vehicle in front. This will increase your ability to see and plan ahead.
- If the steering becomes un-responsive, it may mean that water is preventing the tyres from gripping the road. Ease off the accelerator and slow down gradually.
- The rain and spray from vehicles may make it difficult to see and to be seen.

In snow or icy weather:



- You must ensure that all windows and mirrors have been defrosted, fully cleared and that your lights and number plates are clearly visible.
- You must ensure loose snow is removed from your vehicle including bonnet, roof and boot lid.
- You must ensure your washer fluid and anti-freeze levels are sufficient.
- Ensure all tyres are correctly inflated and have adequate tread depth.
- Drive with care, even if the roads have been gritted.
- Keep well back from the vehicle in front as stopping distances can be 10x greater than on dry roads.
- Take care when overtaking gritting vehicles.
- Watch out for snow ploughs, which may throw out snow on either side and do not overtake them.
- Be prepared for the road conditions changing over relatively short distances.

In Windy Weather



- Strong gusts can blow vehicles off course. This can happen on long stretches of open roads, over bridges or gaps in hedges.
- Your vehicle may be affected by turbulence created by larger vehicles, so keep well back from them.
- Take extra care when opening doors, be sure to keep closed where possible or secured.

In Foggy Weather

- Use dipped head lights.
- Keep a safe distance behind the vehicle in front. Rear lights can give a false sense of security.
- Be able to pull up within the distance you can clearly see. This is particularly important on motorways and dual carriageways, as vehicles are travelling faster.
- Use your windscreen wipers and demisters.
- Beware of other drivers not using head lights

Hazards and Precautions Book

- Do not accelerate to get away from a vehicle which is too close behind you.
- Check your mirrors before you slow down.
- Use your brakes so that your brake lights warn drivers behind you that you are slowing down.
- Use your indicators to show other road users that you are intending to change direction.
- Stop in the correct position at a junction with limited visibility and listen for traffic.
- When you are sure it is safe to emerge, do so positively and do not hesitate in a position that puts you directly in the path of approaching vehicles.

Loading of Commercial Vehicles

As a commercial vehicle driver, you should be aware of the weight restrictions of the vehicle (including hired vehicles) that you drive, and you should proactively check your vehicle weight on a regular basis.

When carrying loads, it is important that you remember and operate within the following guidelines:

- Ensure that vehicles and trailers are not loaded beyond the limits defined on the Dept of Transport or manufacturer's plate.
- Weight limits are always defined in the Driver's Handbook.
- Ensure if carrying high pipe coils or equipment that the height is known and displayed in the vehicle.
- The loads are evenly distributed on the vehicle or trailer that you are using.
- The loads are secured at all times when in transit.

The Police, Trading Standards Officers and VOSA employees are empowered to stop and check vehicles / trailers in respect of suspected overloading and/or insecure loads.

Both the employer (NGN) and the driver (You) can be prosecuted in the event of an overloaded or unsecured load.

Loads in General



When loading a vehicle, care must be taken to ensure that the load is evenly distributed to conform to the vehicle's individual axle weights.

It is important to make sure that when part of the load has been removed during a journey, none of the axles have become overloaded because of the transfer of weight.

This can happen even though the Gross Vehicle Weight (GVW) is still within the permissible maximum.

In such cases, it is necessary for you to correct the situation by shifting the load, or part of it.

Remember that the GVW includes the weight of the vehicle, driver, passenger, fuel and onboard power, tools and equipment.

Be careful not to confuse the GVW with the Gross Train Weight (GTW)

GTW is the maximum permitted weight of the vehicle plus any trailer being towed, plus any load being carried in the vehicle and trailer.

If in any doubt about your individual weight limits, contact your line manager or a member of the EHS Team. If carrying hazardous liquids, the vehicles requires a spill kit appropriate to the risks.

Effects of overloading vehicles

Overloading makes the vehicle less stable, difficult to steer and takes longer to stop.

This puts a huge strain on the tyres and can void the insurance cover.

It can also cause excessive wear and damage to the vehicle as well as increasing fuel consumption.

Overloading a vehicle or a vehicle and trailer combination could compromise NGNs Operators Licence and overall operation.

If you are in any doubt about the weight of your vehicle, drive to the nearest weighbridge or depot with vehicle weigh terminals to check your load, then go to a place you can take off the excess, if required.

You should keep a record of this event in case you are stopped by VOSA or the police.

Your line manager will be able to provide details of nearby public weighbridges.

Also see your Driver's Handbook

Seat Belt Usage



- You must wear a seat belt at all times.
- You must ensure any contractor also wears a seat belt where provided.
- This is applicable for both private and public land.
- Drivers are responsible for ensuring seat belts are in good working order.

Securing Loads – Transportation

When transporting materials on an open top / flatbed lorry or vehicle, you must ensure that the materials are secured to prevent movement using suitable fastening equipment. Loads must be covered using a tarpaulin or netting, as appropriate, to prevent materials from falling off the back of the lorry during transit.

See also hazardous / dangerous substances section. See Driver's Handbook

Towing of Trailers and Mobile Plant

All drivers must be qualified in Classes B&E to be able to tow trailers over 750kg. All drivers must complete a towing familiarisation course to be able to tow trailers as part of their role.

Before attaching a trailer or mobile plant, you must:

- Carry out daily checks of the vehicle and towed equipment safety and condition. I.e. brakes, lights, tyres, wheels, jockey wheel, ratchet strap – min 3 per digger.
- Attach the correct registration plate to correlate with the towing vehicle.

- Ensure the jockey wheel is used when connecting the trailer.
- Ensure towing pin is suitable and secured with an R-Clip
- Attach the brake cable and heavy-duty safety chains to the vehicle.
- Give consideration to the provision of high visibility cable wrap on cables.
- Check whether the rear lights of the vehicle are visible, if not use a trailer light board.
- Ensure that the maximum train weight of the towing vehicle is not exceeded.

When detaching a trailer or mobile plant, you must:

- Park on a level surface.
- Where there is a risk of oil leakage, park downstream of drains and away from unmade ground.
- Apply the vehicle handbrake and trailer handbrake. If parked on an incline park in gear. On severe inclines consider chocking the wheels.
- Ensure the jockey wheel is used when disconnecting the trailer.
- When pushing the trailer over unmade ground wear gloves to protect fingers and hands.

See NGN/PM/EHS/09 Occupational Driving

Dust (Gas Mains)

NORM



Small amounts of dust are often encountered during the operation and maintenance of the gas pipeline system.

This dust may be contaminated with low levels of Naturally Occurring Radioactive Material, referred to as NORM, or NORM Dust.

All NORM dust collected in, or upstream of the inlet filter to a district governor, or through pigging runs, must be collected and controlled in line with the NORM Protocol. This is a procedure agreed with the Environment Agency, which ensures that NORM dust is collected, stored, monitored and disposed of in a controlled manner. The levels are typically considered lower risk in solid form.

Hazards and Precautions Book

If you are working with NORM including generating, handling, storing or disposing of pipeline NORM or filter NORM, you must be familiar with the NORM Procedure, the necessary PPE and RPE must be followed, waste must be kept dry or damp.

Avoid generating liquid wastes, these should only be from the washing of pigging runs by a specialist contractor.

Pyrophoric Dust Combustion

Certain dusts in pipelines or filters may be pyrophoric, in other words they give off heat. These have the potential generate heat when exposed to the atmosphere, and in some circumstances can smoulder. These have the potential to ignite flammable atmospheres so extreme care is needed if you identify warm, smouldering or smoking dusts.

If safe to do so, wearing the correct PPE, move the dust to an open environment away from any flammable sources including gas.

Damp down the dust, consider adding sand to slow the heat generating process, once cooled from damping down double bag and seal with minimal air in the bag, dispose of as hazardous waste.

Further information is available in the NORM Procedure and in Technical Standards.

Dust (Operational Activities)



Silica Dust

Silica is one of the biggest risks to construction workers, after asbestos. Heavy and prolonged exposure to RCS can cause lung cancer and other serious respiratory diseases. In addition to the risks from lung cancer, silica is also linked to other serious lung diseases:

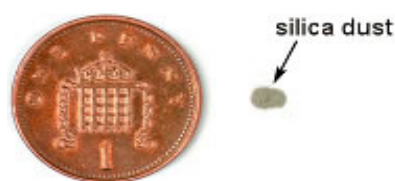
Silicosis: can cause severe breathing problems and increases the risk of lung infections. Silicosis usually follows exposure to RCS over many years, but extremely high exposures can cause acute silicosis more quickly.

Chronic Obstructive Pulmonary Disease: is a group of lung diseases including bronchitis and emphysema.

It results in severe breathlessness, prolonged coughing and chronic disability. It can be very disabling and is a leading cause of death. Operatives using road saws, breakers or drills are at risk of breathing in silica dust.

The amounts needed to cause this damage are not large.

The most you should be inhaling during a day after using the correct control measures, is shown in comparison to this penny:



Cut Off Saws

Cutting operations can generate a significant amount of silica dust when cutting building materials, road and pavement structures.

Water Suppression

Water suppression is your first line of defence. All modern cut-off saws have an attachment for a water hose. The water can be supplied from a mains feed (the best option) or a pressurised water bottle.

The recommended minimum flow rate is 0.5 litres per minute to damp down dust effectively.



Water suppression being used.

Wear a suitable dust mask (respirator) even with water suppression.

Colleagues wearing dust masks must be clean shaven and fit tested.

Nuisance-grade dust masks do not protect your lungs.

Use one with an assigned protection factor of 20, even with your water suppression equipment.

Use either FFP3 filtering face-pieces or respirators with P3 filters.

Check your machinery and safety equipment regularly:

- Make sure the water jets are working properly.
- Maintain an adequate water flow by cleaning the water jets is essential and should be done at least every time the blades are changed.
- Replace worn cutting discs to reduce the cutting time.
- Maintain hoses and bottles.
- Inspect and maintain re-usable masks.

Make sure you deal with other risks:

- Noise
- Vibration exposure
- Flying debris
- Manual Handling

Electricity and Electrical Equipment



IMPORTANT: Any person who experiences an electric shock must immediately seek assistance, notify their supervisor / line manager and attend hospital.

In the event of finding someone who appears to have been electrocuted **YOU MUST NOT** attempt to make bodily contact with the person until all sources of power have been identified and isolated. Then, and only then, can an attempt be made to assist the injured person.

Only company approved and authorised tools, plants and equipment must be used. Make sure, before use, that it displays a valid and dated test certificate. You must visually check, prior to use, the condition of the tools, plant and equipment (free of damage and natural wear & tear).

Faulty equipment must be permanently removed from the workplace.

Work on electrical systems and equipment must only be carried out by competent persons. No attempt must ever be made by an unauthorised individual to interfere with either an electrical supply or equipment unless competent and authorised to do so.

Prior to moving any electrical equipment, ensure that it is switched off and all plugs are removed.

All static and mobile electrical equipment is a potential hazard (fire, shock, burns) if it is not correctly installed and used.

Electrical equipment must not be used for any other purpose other than for which it was designed.

Electrical safety devices e.g. RCDs must be used where provided.

Care should be taken to keep all liquids away from electrical equipment. Ensure all electrical leads are secure. Do not use extension leads other than as a purely temporary measure.

When 230v extension leads are used, they must be protected by an approved residual current device (RCD).

Voltsticks



Prior to commencing work, any exposed metalwork in the work area must be checked for the presence of AC voltage.

A Voltstick will detect the presence of an AC voltage. When an AC voltage above 50v AC is detected a red indicator in the plastic tip illuminates.

Voltstick – Instructions for Use:

Voltsticks are intrinsically safe, and can be used in gaseous atmospheres, they are weatherproof, but not waterproof and care should be taken when using it to this effect.

The voltstick must only be used as a safety device for the protection of operatives working on gas installations, e.g.:

- Cutting off a service
- Disconnecting meters
- Any metallic mains connections work

Hazards and Precautions Book

The voltstick must be checked for correct operation and use by following below:

At the start of every working day:

- The voltstick must be checked against a known 230v AC electrical source of supply.
- This test must be undertaken by holding the voltstick close to a 13A socket outlet connected to a live 230v AC supply.
- The tip MUST illuminate to show correct operation.

NOTE: if the voltstick tip does not illuminate under these conditions it MUST be replaced.

Prior to every use of the voltsick:

- The device must be checked for continued correct operation by rubbing the white tip quickly backwards and forward on clothing to create a static charge: the tip must illuminate to show correct operation .

NOTE: If the voltstick tip does not illuminate, retry against different type of material before declaring it defective and replacing.

- The voltstick must be used prior to touching any exposed metalwork within the work area .
- Metalwork being checked must be in contact with the tip of the voltstick only.
- When using, hold the blue body of the voltstick only – do not hold the white tip.
- The only contact with the metalwork must be via the tip of the voltstick.

WARNING: Do not touch any other metalwork with any part of the body during the check.

- If the voltstick illuminates when in contact with exposed metalwork, this is an indication of the presence of a voltage in excess of 50v AC on the metalwork under test.
- The presence of voltages above 50v must be reported immediately to the Operational Manager who will arrange for the installation to be inspected by a competent electrical person.

- Do not touch the metalwork. Label the installation as dangerous and secure any non-metallic kiosk doors.

Electricity – Live Working



Live working is generally prohibited. There are some instances where it is allowed under special circumstances.

In these special circumstances separate, specific risk assessments are required.

Requirements for supervision and accompanying persons must be established.

Electricity – Unauthorised Personnel

Possibilities of unauthorised staff, visitors or trainees, unintentionally or otherwise, interfering with electrical systems resulting in accident or/and injury to themselves and others should be minimised.

Precautions such as danger signs and labels should be used.

Electrical rooms and cabinets must be locked and secured to prevent unauthorised access.

Refer to NGN/PM/EL6 Electrical Equipment & Systems - Working On or Near at Operational Sites



Electricity – High Voltage

Only persons with the necessary skills, training and knowledge may be permitted to work on HV systems and equipment.

Electrical permit to work / sanction for test must be obtained and correctly authorised.

If in doubt, do not proceed further and report to senior authorised person.

Electricity – Low Voltage

Only persons with the necessary skills, training and knowledge may be permitted to work on LV systems.

- Work on any associated electrical equipment must be within an appropriate level of authorisation in line with NGN/PM/EL/6

Electrical Intrinsic Safety Systems in Hazardous Areas

- Prior to the activity, the area hazard classification must be carried out.
- Do not work on any electrical or intrinsically safe systems unless competent and authorised. Refer to EL6.
- When working on customer premises i.e. loggers, correctors, etc. consideration should be given to additional safety precautions in consultation with customer representation .
- Work on any associated electrical power equipment must be within an appropriate level of authorisation .
- Pay particular attention to instrumentation systems mixing with electrical power system within the equipment .
- Suitable personal protection and safety equipment must be used .
- Requirement for supervision, or accompanying person, including safety arrangements must be clearly established .
- Site layout and the first aid facility should be identified .
- Tools and equipment must be examined for their condition, rating and suitability for the application.
- Approved test equipment must be used .
- Consideration given to the removal of metallic objects including rings, wrist watches, etc.

Electricity – Operational Sites

To reduce the risk of accidents and injuries due to electricity at operational sites, work on Electrical and Instrumentation systems shall only be carried out by competent persons holding a level

of Electrical Authorisation in accordance with **NGN/PM/EL/6.**

All portable, transportable electrical tools and equipment, if not properly installed or used, are potential hazards (fire, shock, burn). All tools and equipment shall be registered, regularly inspected and tested.

Users are required to visually check the condition and evidence of a valid electrical test, prior to use.

Portable electrical tools and equipment shall not be used for any other purpose than for which they are designed. Only certified electrical equipment shall be used in hazardous areas.

Serious injuries can occur during work near underground, overhead and hidden cables. Personnel must make sure they are fully protected against electrical danger, observing relevant field procedures and wearing personal protective clothing.

Static electricity may contain enough energy to ignite a gas and air mixture of the correct proportions. You must be aware of such conditions. Items which are likely to store, or create, static electricity Must not be carried in the hazardous area.

Refer to NGN/PM/ EL/6 Electrical Equipment & Systems - Working On or Near at Operational Sites

Requirements for non-electrical operatives working in customers premises.

Before carrying out work you must:

- Test any exposed metalwork using the voltstick.
- Fit a continuity bond across any physical break to be made in a section of pipework by cutting or removal of a component. The continuity bond must be correctly designed and installed with low resistance electrical connections to ensure effective electrical continuity.
- Carry out visual checks to ascertain routes of internal electricity cables.

- Never drill into areas where cables are present.
- Ensure permission to use the electricity supply is gained prior to commencing work in customers premises.
- An external Residual Current Device (RCD) Must be used at the socket and checked to ensure that it is operating satisfactorily.

Requirements for non-electrical Operatives working on metallic systems with cathodic protection.

You must:

- Ensure, where impressed current cathodic protection is used for separate protection of the pipeline or station pipework, that the transformer / rectifier is switched off prior to cutting or removal of the component and switched on again after replacement.
- Ensure that at least two people are present during any maintenance operation involving isolation and dismantling of equipment.
- Not touch both sides of insulation joint simultaneously .
- Not make contact with pipe if holiday detection is in progress .

Refer to NGN/PM/EL15 Electrical safety at consumers' premises.

Gas Meter / Pipework

Before commencing work:

- Use a voltstick to ensure no voltage present.
- Install temporary continuity bond before removing a meter, disconnecting / breaking a joint or cutting pipework.

Metal Ladders & Platforms

You must not use metal ladders and ladders with exposed metal reinforcements where there is a potential electrical hazard etc.

Emergency Services

Emergency Vehicles
Only

When attending an incident or emergency where the emergency services are in attendance you must liaise with them.

You must:

- Never put your own life, or the lives of others, at risk
- Contact your line manager in circumstances where other emergency services request that you carry out work that does not comply with NGN procedures.
- Advise other emergency services of any hazardous substances that may be present.
- Request details from other emergency services about any hazardous substances that may be present.
- Contact line management when emergency services do not have information on hazardous substances which may be present.
- Report details, and your actions, to the incident reporting line – INJINC 07837 0557 451 or injinc@northerngas.co.uk

Emissions to Air



Emissions to air from NGNs operations have a significant impact on the environment.

The leakage of natural gas from pipe networks and AGIs, along with the fossil fuels (coal, natural gas, petrol/diesel) burned to produce electricity, heat our buildings and power our fleet vehicles all contribute to climate change.

In addition, emissions and particulates from vehicles and combustion equipment (such as boilers) contain pollutants which negatively impacts air quality.

Dust from excavations and stockpiled spoil can also negatively impact local air quality.

In recognition of these impacts, NGNs People and Planet Strategy commits us to eliminate emissions to protect the environment.

You can help NGN achieve these commitments by the following:

- Drive **SMART** to maximise fuel efficiency and minimise emissions:
 - **Speed** – Keep inside of the limit.
 - **Mass** – only carry what you need.
 - **Air Con** – use it sparingly.
 - **Revs** – change up gear at 2000rpm diesel & 2500rpm petrol.
 - **Tyres** – keep them pumped up to limit drag.
- Minimise engine idling where you can. Do you really need to keep the engine running when you are parked?
- Turn off lights, heating and appliances in offices and depots when not in use.
- Using battery powered equipment wherever possible, as an alternative to generator driven items e.g. mobile traffic lights. **Please Note:** some councils specify only battery powered lights can be used in their areas to minimise emissions.
- Keeping all materials that can blow away easily, or generate dust, in a secure container.
- Reducing dust produced as a result of works e.g. dampening the area where road saws are used.
- Manage gas escapes, purging and venting operations to minimise the gas emitted to the atmosphere.
- Report poorly performing, or inefficient, plant and equipment to your line manager and/or NGN maintenance team.
- Maintain additives such as AdBlue to suppress pollutants.
- Report any performance issues for works vehicles to fleet.

End Users Premises

If you are called to a gas escape at an end users' premises, you must: On arrival, confirm that gas has been turned off and property ventilated. If this has not been done – open windows and doors, turn gas supplies off and where there is evidence of fumes, or you suspect fumes, ensure property is vacated for 15 minutes whilst ventilating. Rather than automatically evacuating, if fumes are present or suspected Gascoseeker in CSM should be used to ascertain readings.

Isolate gas supply by either:

- Turning off customer's meter control if this has not already been done.
- Turning off service isolation valve or house entry tee
- Then ventilate by opening doors, windows and cellar covers this is worded confusingly, ventilating isn't isolating a gas supply.
- Remove any persons overcome by gas or products of combustion to a safe location.
- Seek assistance if required.
- Where additional light is required, use safety torch provided.
- Prevent unauthorised entry.

Maintain contact with other personnel on-site.

See Electricity

Cellars

Cellars are, by their nature, enclosed. Many are perfectly safe to enter, however, if you identify any of the hazards below then this is a confined space, and you must contact your manager immediately for advice and assistance.

See Confined Spaces and Restricted Working Areas sections of this book.

The most obvious hazard is of LPG and natural gas having leaked into the cellar creating a flammable atmosphere and displacing air resulting in reduced oxygen levels.

When approaching a domestic cellar where there is a potential gas leak:

- Ask the occupier if the meter is in the cellar or if there is a means of making the supply safe external to the cellar. In some houses with cellars the meter is at the top of the cellar steps and entry into the cellar itself is not necessary.
- Check if the cellar can be ventilated from outside before you go in .
- Check that there is safe access. Are the stairs in good condition?
- Check that the electrical supply is safe. Look for damaged switches, exposed wiring, worn or damaged insulation that reveals bare wires.
- Check whether there may be water in the cellar. If there is, do not enter as the risk of

electric shock is high and you will have no way of knowing how deep the water is or if it's safe underfoot.

- Is there adequate lighting? If not, you will not be able to see potential hazards.
- Always carry an intrinsically safe torch, but if this does not give you enough light then do not proceed.
- Is there evidence of rats? If there is, you must ensure that any cuts or abrasions are covered with waterproof plasters, and you are wearing waterproof gloves and boots.

Always ask the householder about the layout and contents of the cellar. The information they can give you is vital.

If you are unsure about the results of your checks, then **DO NOT ENTER**.

Call your manager for advice and assistance.

If you determine that there is no risk or an acceptable level of risk in entering a cellar to investigate a potential gas leak, then you must exercise caution as you make the entry.

Always use your Gasco-seeker to check the gas and oxygen levels.

Where appropriate, use the long probe to test the air before you commence entry.

If at any points your Gasco-seeker registers a gas concentration of 20% LEL or more or below 19% oxygen, you must abort entry. Be aware that LPG is denser than air and will sink into cellars, LPG readings show less on a Gasco-seeker.

Retreat to a place of safety and call your manager.

In mining areas, black damp could be encountered in cellars. Inform YOUR MANAGER others that you are entering a cellar. If you start to feel breathless, dizzy, nauseous, headache, faint then evacuate the cellar immediately. Ventilate the cellar if possible and inform your manager.

The local Environmental Health offices should be notified too.

Incomplete Combustion (Appliances)

If incomplete combustion is suspected, isolate appliance as quickly as possible, ventilate space

and remove people into a safe area taking care of your own safety at all times.

Gasco Seekers have the ability to check CO levels. Only evacuate if readings suggested to do so. (at or above 100ppm co)

See also Third-Party Sites / Premises, Fire, Forcing Entry.

Engineering Workshops



Use of Electricity

- Having a planned inspection and maintenance regime, including PAT testing
- Competent contractors used for any electrical work under a safe system of work.
- Electrical safety devices (RCD) for socket outlets

General

- Any hazards or machinery defects are reported immediately, and remedial action is taken to manage the hazard.
- Walkways / gangways are marked and kept clear and maintained.
- Lighting levels are adequate for the task undertaken.
- Work areas must be kept tidy to avoid slips, trips and falls.
- No food is consumed in the workshop.

Machinery

Before using any machinery in the workshop, you must:

- Ensure that you are trained and competent in its use.
- Carry out a visual inspection to ensure that the machinery is fit for purpose.
- Report any defects immediately, do not use the equipment and quarantine.
- Wear PPE as prescribed for use of the machinery.
- Not wear loose clothing or jewellery that could be trapped by moving parts.
- Check that, where appropriate, any safety devices are working effectively.

- Ensure that the machinery has an emergency stop button provided which electrically isolates all machinery when operated.
- Ensure that adequate guarding is in place.
- Ensure that electrical safety devices are fitted e.g. RCD for socket outlets.

Whilst operating machinery in the workshop, you must:

- Keep all guards and shields in place.
- Stand clear of moving parts.
- Isolate machinery before carrying out maintenance.
- Ensure that stored energy is released prior to carrying out any work or maintenance.

Vehicles

- Where practicable people and vehicles have separate transit paths
- Banksman are used when vehicles are reversing.

Use of Hazardous Substances

For information associated with metalworking fluids, weld / flame cutting fumes, aerosols, paints, cleaning / degreasing, cutting, grinding, compressed gases, glues, resins and oils – refer to the local COSHH assessments and relevant data sheets and Hazardous / Dangerous Substances.

Welding / Flame Cutting

- Welding and flame cutting should be carried out in well-ventilated areas or with the use of Local Exhaust Ventilation (LEV)
- Welding outside of dedicated booths should be assessed for the risk of fire.
- Use welding shields and ensure no unauthorized access to the welding location.

Manual Handling

Lifting of goods and equipment:

The nature of work in workshops often requires the lifting and manoeuvring of heavy or strangely shaped plant and equipment.

Ensure that manual handling risk assessments have been undertaken and that you have been trained in the correct manual handling techniques.

For more information **see Manual Handling**.

Lifting of Goods and Equipment

Only use company issued and maintained lifting equipment and only use equipment if you are trained and competent to do so.

You must always:

- Plan lifts in advance.
- Ensure that the load is within the safe lifting weight of lifting equipment and accessories.
- Provide safe places of work from which to maintain hoists and lifts, particularly at heights; do not allow overhead travelling cranes to work within 6m of persons on crane tracks.
- Check the condition, type and size of any eyebolts used and ensure that the thread type matches the hole into which it is to be screwed.



Noise

Noise assessments must be carried out where it is suspected, or it is foreseeable that persons may be exposed to too much noise i.e. difficulty in hearing someone talking at two arm's length / 2m away.

Where excessive noise cannot be eliminated or reduced:

- Appropriate hearing protection must be provided and worn.
- Hearing protection zones must be established, and appropriate signs displayed where noise will exceed the exposure limits.
- If you are exposed to excessive noise, you will be required to attend for health surveillance to monitor your hearing performance.
- Training and information must be provided.

Vibration

Exposure to vibration may lead to medical conditions such as vibration white finger (VWF) sometimes also referred to as Hand Arm Vibration (HAV) and Carpal Tunnel Syndrome (CTS), inflammation of the wrist and tendons. Plant and equipment such as hand-held drills and Stihl saws can expose you to vibration within the workplace.

If you service vibratory equipment such as road breakers, vibro-tampers, rock drills and moling equipment in workshops and test them afterwards, you will be exposed to vibration and

therefore at risk of developing the above conditions.

If you are exposed to vibration, then a risk assessment **MUST** be carried out and the exposure eliminated or reduced down to a minimum.

Good practice to minimise exposure includes:

- Prevent exposure to vibration for long periods by rotating work between colleagues or non-vibrating work.
- Use well maintained machines with correct tools.
- Keep hands warm to improve blood circulation.
- Stop smoking (it exacerbates symptoms).
- Monitor exposure to vibrating machines.

If you are exposed to vibration, you will be required to attend annual health surveillance.

Skin Damage

Many metal working fluids, paints, cleaning degreasing and cutting fluids, glues, oils and resins have the potential to harm the skin, particularly the hands and face.

This can result in sensitisation of the skin or allergic dermatitis that causes the skin to become red raw, inflamed and very painful.

There must be a system of skin inspections and reporting of suspect skin conditions to line managers.

Occupational health can be contacted for advice.

To minimise skin damage, you should:

- Seek good hygiene practices.
- Self-inspect your skin at the end of the working day.
- Follow care and replacement regimes for cutting oils.
- Any concerns / problems refer to line manager or occupational health.

If you are exposed to liquids, oils and greases that can cause dermatitis, you will be required to attend annual health surveillance.

Eye Damage

Eyes are extremely vulnerable to damage from:

- Impact from high-speed particles from grinders, drills and lathes.
- Chemical attack from liquids, aerosols, mists and vapours.
- General nuisance dust is often present in workshops.

Eye protection must be worn in workshops when activities create a risk to the eyes.

Breathing Difficulties

Some paints and solvents often used in workshops can affect your breathing.

Always refer to the data sheets for advice or ask your line manager to review the COSHH assessment if you have concerns. Wear appropriate PPE, recommended from the data sheet.

Some activities such as welding / flame cutting and soldering will be required to be undertaken in well-ventilated areas or with the use of Local Extract Ventilation (LEV) to prevent you inhaling the fumes.

Always visually check the LEV systems and ensure that they have been maintained and tested before using them.

Maintenance and testing must be carried out by a competent person at least every 14 months, and every 6 months for grinding or polishing equipment used for more than 12 hours per day.

Environment



NGNs Environment Strategy

NGN's People and Planet Strategy commits us to protecting the environment and making a positive contribution where possible. We should consider the environmental aspects of everything we do. You can help NGN achieve our strategic commitments by following the guidance below:

on one page



- Produce less waste and recycle all of it.

e.g. smarter excavations, drilling, insertion all right first time.

Wherever possible single use plastics should be avoided where reasonable alternatives exist. Examples include:

- Reusable drinking bottles.
- Reusable ground protection.
- Working with suppliers to deliver alternative packaging.

Environmentally Sensitive Sites

Environmentally sensitive sites include archaeological remains, sites of special scientific interest (SSSI), conservation areas and trees with preservation orders.

Controls to preserve archaeological sites (including scheduled ancient monuments, World Heritage Sites and listed buildings), areas of historical importance and SSSIs should be understood before starting work and controls put in place.

Prior to any work being carried out, streetworks or Capital projects, records for these areas of special interest should be identified and checked.

All known environmentally sensitive sites should be avoided where possible. If this is not possible, permission must be sought from the relevant authorities.

For protected animals and their habitats – see Animals section of this book.

Archaeological Sites

If archaeological remains are discovered whilst work is being undertaken, any damage must be minimised, and a record made recording the findings and recovery.

A qualified archaeologist must carry out this work, supervision to carry on may be needed.

Archaeological remains may include stone, brick structures, artefacts such as jewellery, tools, coin hoards.

The discovery of archaeological remains, treasures and human remains must be reported to your first line manager immediately, who will contact the Police (for human remains) or the Local Authority for other artefacts.

Work should be suspended unless it is an emergency situation that is not safe to leave.

Do not attempt to investigate any remains yourself.

Scheduled Monuments (SMs)

Are nationally important archaeological sites protected by law. Think Abbey ruins, Stonehenge, Roman Forts.

- They are shown in green on NGN GIS maps layer 'SSSI-SAM'.
- NGN must obtain scheduled monuments consent from Historic England before disturbing (excavating) within SMs.
- For planned work, SMs are usually identified during planning, and consent must be in place before commencing work.
- For emergency work, NGN must keep disturbance to an absolute minimum and notify Historic England of our work at the earliest opportunity:
Yorkshire: 01904 601948
North East: 0191 2691255
Cumbria: 0161 2421416

Be aware as archaeological sites, the excavated spoil may contain important artifacts, stonework or other items of significant. If in doubt store securely, photograph and agree reinstatement with the regulator.

Listed Buildings

A listed building in the United Kingdom is a building, or other structure, officially designated as being of special architectural, historical or cultural significance.

A listed building may not be demolished, extended or altered without special permission from the local planning authority.

Exemption is provided for Anglican Churches in current use, and the church operates its own permissions procedure.

Above ground meter boxes (bolt-on or built-in) cannot be fitted onto listed buildings. Any brackets or fixings required permission from the Local Authority.

SSSIs

Sites of Specific Scientific Interest are protected conservation areas.

All works near or on an SSSI must not proceed without a method of works being agreed by Natural England and a consent must be issued. SSSIs are shown on NGN GIS maps layer 'SSSI-SAM'.

For emergency work, keep disturbance to an absolute minimum, including vehicle and equipment movements within the designated area, noise, lighting and excavation sizes.

It is recommended an ecologist is appointed to advise or supervise any works to minimise impacts.

Contact Natural England – 0300 060 3900 at the earliest opportunity to inform them about the works and the control measures put in place.

Trees with Preservation Orders

Checks should be made with the Local Authority Planning Department to determine if there are any trees with preservation orders within the vicinity of the streetworks or construction project which might be impacted by the works.

These trees should be avoided and close communication with the Local Authority must be maintained at all times during the work. This includes the tree, the branches (canopy) and the root structure. Impact can be avoided by selection of best route, avoided through insertion and selecting suitable excavation locations, if not consider more specific controls such as hand digging, vac ex to avoid blind excavations.

If a tree is to be removed, check for TPO, Conservation area, and you will need landowner permission.

Hedgerows

In England & Wales certain hedgerows require permission from the local authority before they can be legally removed.

When planning any work which may involve hedgerows you must consider the following:

- Is it in, or next to, common land, a site of special scientific interest (SSSI), a local nature reserve, agricultural land, forestry or land used for horses, ponies or donkeys?
- Does it have a continuous length of, or exceeding, 20 metres?
- Shorter hedgerows, which join up with other hedges. Hedgerows can have a gap of up to 20 metres and still be considered whole hedgerows. I.e. 2 hedgerows of 20 metres with a gap of 20 metres in the middle will count as a 60-metre hedgerow.
- Is the hedgerow home to any protected species? **See Protected Species section.**
- Are there birds nesting in the hedgerow? **See Protected Species section.**

Removal of hedgerows is permitted in the following circumstances:

- There is already specific planning permission for the work.
- There are no other means of access available.

- An alternative means of access is only available at a disproportionate cost.
- Access required is temporary for an emergency only.

Before removing any hedgerow, contact the local planning authority who will be able to tell you whether the hedgerow is protected, and they will give you further advice.

Pruning hedgerows may disturb nesting birds.

See Animals – Birds

Any damage to environmentally sensitive sites, listed buildings, archaeological sites or protected trees must be reported as an environmental incident in accordance with **NGN/PM/INV/1** procedure, escalated to the applicable regulator where necessary.

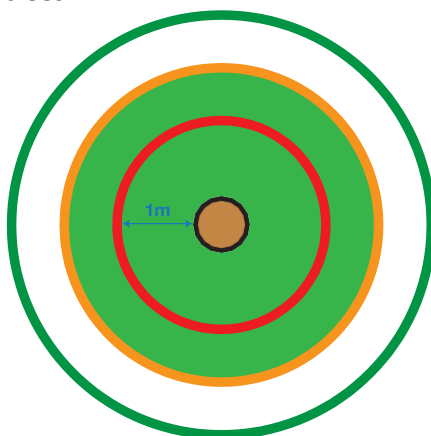
Working Close to Trees

Tree roots keep a tree healthy and upright.

Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree, few will be thicker than a pencil.

Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged, the tree may suffer irreversible harm and eventually die, or become structurally weaker.

The diagram and information below details the precautions which must be taken when working close to trees.



TREE PROTECTION ZONE

Key to Diagram

- Trunk of Tree
- Spread of canopy of branches.
- PROHIBITED ZONE – 1m from trunk.

Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Officer is undertaken. Materials, Plants and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – beneath canopy or breach spread. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree officers if any doubt.

PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied, and the use of mechanical plant limited. Any exposed roots should be protected.

Protecting Roots – Dos and Don'ts

As seen in the diagram above, there are three designated zones around a tree, each of which has its own criteria for working practices.

The Prohibited Zone (within 1m of the trunk)

Don't excavate within this zone unless the work is for essential emergency work purposes.

Don't use any form of mechanical plant within this zone including grab wagon clamps.

Don't store materials, spoil, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to the trunk.

Do contact the local authority tree officer, or owner of the tree, if excavation within the zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and topsoil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

The Precautionary Zone (beneath the canopy or branch spread)

Don't excavate with machinery. Where excavation is unavoidable within this zone, excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Hazards and Precautions Book

Don't repeatedly move/use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemical and fuels, within this zone.

Do prune roots which have to be removed using a sharp tool (secateurs or handsaw) make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular and topsoil mix. Compact the backfill with care around the retained roots. On non-highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the owner of any damage.

The Permitted Zone (anywhere outside of the precautionary zone)

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed with a sharp tool. Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking, ensuring this is removed before backfilling.

Do notify the local authority tree officer or tree's owner of any damage.

Invasive and Dangerous Plants



Invasive plants are plant species that are not native to a particular region, whose populations grow rapidly, and that have the ability to out-compete native species.

These can pose risks to human health and safety, as well as to the health of livestock and natural eco-systems.

It is an offence to plant, or cause, an invasive plant to spread under the Wildlife and Countryside Act and all waste containing invasive plants comes under the control of Part II of the Environmental Protection Act.

As always, standard PPE (coveralls, safety footwear and gloves) should be worn when working on site and care should be taken to cover

any bare skin to avoid contact with unidentified plants.

If you encounter any of the species listed, you must notify your line manager. Under no circumstances should you attempt to remove or destroy the plant without prior consultation with the EHS Team.

Guidance on working in close proximity to these plants in an emergency situation is provided below.



Himalayan Balsam

Himalayan Balsam usually grows to 1-2 metres high. It has pinkish stems and dark green leaves. Its easily recognised by its distinctive flowers (above) and seed pods, which explode when touched, scattering the seeds over a large area.

If identified on site:

- Do not disturb the plant.
- Barrier off the area leaving a 1m gap between the plant and the barrier.
- Put up warning signs to ensure the plant is not interfered with.
- Notify your line manager who should contact the Environment team.
- Work should ideally be scheduled for winter/spring when the plant is not in flower and the risk of spreading it is reduced.
- In emergency situations, avoid walking or moving plant and equipment through patches of this plant. If this is absolutely necessary, keep all movements in and out of the area to a minimum to avoid mobilising the plant seeds. One journey in, one journey out for excavators.
- Establish a boot wash down point (bucket of water and brush) at the edge of the plant infestation area so boots can be cleaned down before leaving the area to access non-infested areas. Carefully pour the contaminated water from the boot wash on the ground within the existing plant infestation on completion.
- Quarantine all tools and equipment in the area of the plant infestation until the work is complete and then thoroughly clean down all tools, plant (especially tracks and buckets), equipment, boots, PPE, etc. in the work area before it is removed off site.

Japanese Knotweed

Japanese knotweed has hollow stems with distinct, raised nodes that give it the appearance of bamboo. While stems may reach a maximum height of 3-4 metres (9-12ft) each growing season, it is typical to see much smaller plants in places where they sprout through cracks in the pavement or are repeatedly cut down.



The leaves are broad and oval. 7-14cm (3-7in) long and 5-12cm (2-4in) broad. They grow from alternate sides of the red stems resulting in a distinctive zig zag pattern.

During winter, Japanese Knotweed is identifiable by the remains of the previous summer's growth, which show as clumps of brittle bamboo like canes.

Its roots can extend 7 metres (23ft) horizontally and 3 metres (9.8ft) deep, making complete removal by excavation difficult. Less than half a cm (1/4 inch) of the stem, or root, is easily enough for a whole new plant to grow.

These plant fragments can be easily transported in waste spoil and even on the mud on the soles of work boots, making Japanese Knotweed the most aggressive, invasive plant in Britain.

If identified on site:

- Do not attempt to hack down or dig out the plant.
- Barrier off the area leaving a 1m gap between the plant and the barrier.
- Put up warning signs to ensure the plant is not interfered with.
- Notify your line manager who should contact the Environment Team.
- Make the Landowner aware of the Japanese Knotweed, the location of pipelines and works, and the legal obligation to prevent the spread off site, it is landowner responsibility to manage.
- If on NGN land, report to Maintenance who should engage the grounds maintenance contractor to initiate a treatment programme or removal.

Planned work within 7m laterally of

Japanese Knotweed:

Notify your Line Manager and the EHS Department and do not proceed until you have developed site specific RAMS. Input from a specialist external consultant and potentially special waste disposal may be required, incurring additional costs.

NEVER:

- Excavate, move spoil or move plant/equipment/material within 7m of a Japanese Knotweed plant without a site-specific RAMS.
- Disturb the plant in any way, including pulling out the stalks, as this can cause it to spread – it even sticks to your shoes.
- Dispose of spoil from within 7m of Japanese Knotweed off site via normal disposal routes. If off-site disposal is required, it has to go to a special landfill .
- Move plant, equipment, materials and PPE out of a knotweed work zone without thoroughly decontaminating it.

Emergency work within 7m laterally of Japanese Knotweed:

- If possible, erect barriers around the plant leaving a 1m gap between the plant and the barriers to limit disturbance of the plant.
- Keep excavations to a minimum size.
- Store spoil as close to the excavation as possible, definitely within 7m of the plant, and stockpile the spoil on visqueen (or similar) and cover it to prevent it contaminating the underlying ground.
- Quarantine all tools, plant and equipment which have been exposed to the soil within the working area until the job is complete (wherever possible) to avoid potentially contaminating soil being spread to other areas. This includes mini diggers. Do not remove them off-site until they have been thoroughly decontaminated (see below)
- Minimise movements in and out of the working area until the work is complete to reduce the chances of contaminated soil being spread on boots. Establish a boot wash down point at the edge of the plant infestation area to enable them to be cleaned down before leaving the area to access non-infected areas. Carefully pour the contaminated water from the boot wash on

the ground within the existing plant infestation on completion.

- Where possible, backfill spoil into the original excavation.
- Clean down all tools, equipment, PPE and boots before leaving site to remove all traces of soil, brushing all loose soil back into the excavation/spoil pile. Pay particular attention to boots, excavation tools, mechanical plant wheels/tracks and excavator buckets.
- Contact your EHS team to make arrangements for disposal of the spoil, if required.

Giant Hogweed

Giant Hogweed may reach 2-5 metres (6-15ft) tall. The stem shows a purplish-red pigmentation with raised nodules. Each purple spot on the stem surrounds a hair, and there are large, coarse white hairs at the base of the leaf stalk. Stems vary from 3-8cm (2-3.5in) diameter.



It flowers from late spring to mid-summer, with numerous white flowers clustered in an umbrella-shaped head that is up to 80cm (2.5ft) in diameter across its flat top.

The stems, edges and undersides of the leaves, bear small hairs containing poisonous sap, and the slightest touch causes painful blistering and severe skin irritation.

Contact with sap in sunlight produces a skin reaction in almost all cases.

Blistering symptoms occur 24-48 hours after exposure, and dense pigmentation is visible after 3-5 days.

This may persist for 6 years or more.



Burns from contact with Giant Hogweed

Contact with the eyes causes temporary, and occasionally, permanent blindness.

If skin is exposed to the hairs or sap, the affected area should be washed thoroughly with soap and water, and the exposed skin covered and protected from the sunlight for several days. Medical advice should be sought.

If the sap makes contact with eyes:

Wash out immediately and seek medical attention.

If identified on site:

- Protective clothing must be worn, and bare skin covered.
- Put up warning signs to ensure the plant is not interfered with.
- Notify your line manager. Your line manager should contact the EHS Team.
- In emergency situations, minimise working in close proximity to the plant where you might accidentally touch it, and provide lighting so the plant can be seen and avoided.
- Ensure skin is covered as much as possible to limit potential for contact.

Excavations

Safe working in excavations where gas is or will be present.



Risks to health:

- Serious injury from fire or explosion.
- Injury to lungs from breathing burning gas.
- Asphyxiation from breathing gas.

This advice applies specifically to LOW PRESSURE engineering operations in excavations, up to and including *1.2m deep, where it is impossible to carry out a NO-GAS operation as per ML/SL procedures, or other current instruction notes.

The work described under this advice is estimated to take no longer than 10-15 minutes to complete. If the work is expected to take longer, or falls outside of the examples given below, do not start work and contact your line manager who will prepare a safe system of work to enable you to work safely.

These are some of the examples (not exhaustive):

- Cutting off or disconnecting LP steel services up to, and including, 2" diameter from a live gas main.
- Removing a plug, a nipple or other fitting up to, and including, 2" diameter from a live gas main.
- Temporary repair to an LP PE system, where a quick or remote squeeze off cannot be done.
- Working in a gaseous atmosphere investigating gas escapes where gas readings are above 20% LEL in your breathing zone.
- Repair work such as changing bolts / sealing and fitting repair clamps to broken mains.
- Sealing DI corrosion holes and suspected DI corrosion.
- Adjusting or tightening bolts or fittings.

Any other work which falls outside of this criteria, such as.

- Pressure Range (above low pressure)
- Size of pipe being cut off or disconnected more than 2".
- Depth of excavation deeper than 1.2m or unstable ground conditions
- Unforeseen hazards not covered by existing controls.
- any excavation requiring mechanical aid (e.g. whaler board and Acro props) requires a permit.

They must all be considered for a more detailed Safe System of Work and Permit to Work under the Safe Control of Operations procedure.

If any of these reasons are preventing you from carrying out the work, stop immediately and contact your line manager.

**1.2m is a reference measurement only and does not exempt excavations from needing shoring if ground conditions require it.*

You must ensure that excavations remain safe at all times when work is being carried out, and when sites are unattended.

Consider the safety of the public, including those with impaired vision/hearing, disabled, young children and the elderly.

Planning

Before digging or working in any excavation, it is important to plan the work and carry out an assessment of the controls that will be needed.

This planning should be carried out in advance, where possible.

In emergency repair situations, the team leader must still carry out planning and assessment.

You must ensure that excavations remain safe at all times when work is being carried out, and when sites are unattended.

Consider the safety of the public, including those with impaired vision/hearing, disabled, young children and the elderly.

Excavations and the Environment

The team leader must also assess the potential environmental impacts of the excavation, by considering:

- The locations of sensitive environmental targets including drains, watercourses, wildlife, conservation areas, schools, hospitals, etc.
- The protection of, and hazards, created by adjacent trees or plants.
- The temporary storage of spoil away from road gullies, drains and water courses, including run off.
- The effects of fumes, noise and dust on the workforce and on members of the public.
- Provision of breathing apparatus and fire extinguishers.
- Appropriate disposal methods for both silty and/or contaminated water.
- Safe storage of materials, in particular, hazardous liquid.
- Spillage response procedures.
- Adequate provision of spill kits.
- The likelihood of encountering contaminated soil.
- Minimisation of wastes, including the re-use or recycling of spoil.
- Segregation of wastes by material type.
- Storage and responsible disposal of wastes.

Continual re-assessment should be undertaken while the excavation remains open.

Relevant documentation (job card, permit, NRSWA) must be current, and kept readily available.

Ensure that there will be adequate space to work safely, including room for storage, vehicles, etc.

Plans & Plant Location



You must determine the position of underground plant before excavating using a cable locator and referring to utility plans and any other indications of buried plant.

In emergency situations, determine the location of all buried plant by contact with appropriate utilities or plant owners e.g. oil pipelines. Trial holes must be dug to identify the position of underground plant prior to use of mechanical excavators.

Major Accident Hazard Pipeline (MAHP)

At the planning stage of a project, where it is identified that we may have to work within the way-leave area of a pipeline covered by MAHP, contact must be made with the operators to determine what operational requirements will be necessary to ensure safe working access in the area of the pipeline.

This information must be included within the Construction Phase Plan, with all of the relevant contact details for the pipeline operator and briefed to all colleagues involved in the project.

NOTE: there are various lead in times prior the commencement of works within MAHP pipeline wayleaves.

Prior to commencing work within a MAHP pipeline area it is advised that a site visit is arranged to determine the exact position of the pipeline and identify any additional safety requirements that may have been missed at the initial point of contact.

Where teams involved in Emergency and Repair works identify Third Party Pipelines (shaded areas on the NGN Mapping system) you should then contact your line manager, who must make every effort to contact the pipeline operator to establish the exact position of the pipeline and any safe working requirements.

Further guidance for working within an MAHP area is given in NGNPM/DR10 Identification of 3rd Party Hazardous Underground Plant and NGN/PM/PSR/5 The NGN Major Accident Prevention Document (MAPD)

Information regarding independently operated pipeline and operators can be found online at: www.linewatch.org.uk

If damage is caused to a MAHP in the course of any works the consequences are serious, with the real potential for loss of life.

Please ensure that you take all steps to avoid damage to MAHP's.

Simple steps to prepare for working in live gas excavations	
TASK	ACTION CONTROLS
SSRA Method Statement Safe System of Work	A Risk Assessment must be carried out for the work you are doing. It may need a step-by-step instruction. Your SSRA will indicate this. The assessment should consider risks to workers, customers, members of the public and a description of who is doing what and who is responsible so there are no mistakes or misunderstandings when the work starts.
Safety of Excavation	Erect signs and link all barriers. Prevent access by unauthorised persons. Erect Heras fencing where your SSRA deems it necessary. Use sandbags or to weight barriers to prevent collapsing of barrier system
Working zone and adjacent area	Must be clear area of spoil, unnecessary materials, equipment and tools which will not be required in the excavation. Ensure quick clear access and egress to place of safety in an emergency (FIRE)
Size of excavation	Ensure the excavation is large enough to work in safely and get out of quickly. Remember you will be wearing BA and more PPE than you had when you dug it out, so you will need more room. The excavation may become a confined space if the size is restrictive. A confined space will be created if the depth of the excavation exceeds the shortest width.
No smoking signs. Forms of ignition	Display these at least 5m away from where gas will be released and from all approaches to your works. Give people plenty of warning to stop smoking. Eliminate sources of ignition. Check properties for central heating flues and open windows. Inform occupiers that gas will be released. Inform them afterwards that there will be no more gas released. Prevent use of mobile phones and powered electrical / petrol driven equipment whilst gas is being released.
Fire extinguishers	2 x 9kg dry powder, fully charged and with valid inspection date, must be positioned on every release of gas where they will not cause an obstruction to you and will not be engulfed in flames if the gas does ignite. You must be trained and competent in using extinguishers.
BA sets and flame-retardant clothing	BA must be in good condition and with valid inspection date. All who would be expected to work on live gas must be competent to use it. Decide from the start who is to be doing the work in the excavation and wearing the BA, and who will be the safety man ready to put on if necessary. Flame retardant clothing must be worn and must cover all parts of the body. Those doing the work must have a valid face fit and wear a flame-retardant balaclava. Boots and leather gloves must be worn. A safety helmet may be required for head protection. An additional person will be required if more than one person is working in the excavation.
Tools, equip, materials	All of these must be positioned within easy reach and not cause an obstruction. Ensure you have Denso tape and mastic. Remember continuity bonds and wet rags, spare hacksaw blades and any other tools for special fittings. Take time to plan what you will need.
Signals	Ensure you have a signal system between the man in the excavation and the man on the top (the safety man). The safety man must monitor the work and surroundings and must not leave the excavation at any point. They must immediately inform the man in the excavation to evacuate when required.
Work in the excavation	During the work, if it becomes necessary for anyone to leave the excavation, the job must stop and be made safe before you exit the excavation. You must not work alone in an excavation.
Motto	Fail to Plan, Plan to Fail

Underground Plant and Materials

Before starting work on any excavation, you must be competent to do so and should always ensure plans identifying any underground plant are available to you.

These must be used at the design and planning stage to identify any significant health and safety hazards.

Records of cable locations are kept by all electric companies in various forms. When you request plans, always ensure you request both **HIGH** and **LOW** voltage location plans as some authorities do split the two types of cables for clarity.

YOU MUST ENSURE THE PLANS YOU HAVE INDICATE BOTH TYPES OF CABLE SERVICE.

NOTE: Consult other utilities, plant owners (oil pipelines) property owners (private supply to a garage / out building) for any special conditions prior to excavating on their apparatus. A permit to work system must be operated where required, e.g. hot work, etc.

See Linesearch below.



Buried Cables

There are numerous types of buried cables and they do not always follow an exact straight line. You must always confirm the depth, direction and location of any buried cables. To do this use a cable avoidance tool (CAT) in all 3 modes, i.e. power, radio and genny (induction) mode, before excavation / bar-holing / trial-holing commences and continue to use once work has commenced.



Photo of a HV cable damage incident
Damage to services

Whilst working, you must be continually aware that any damage to a cable has the potential for injury and arc explosion:

- You **MUST** report any damage to a cable coating or wrap immediately to your line manager.
- Should a strike occur on 11kv or 33kv cable, a resultant arc explosion may occur.
- The force of the explosion will take the line of least resistance. (the direction from which the damage occurred will travel towards YOU, the operator).
- The electricity companies monitor their systems to try to maintain full service at all times.
- Once a cable has faulted the electricity company will be aware of the incident.
- To identify the line that has been damaged the electricity company carry out an inspection and testing and may turn power to cables 'on and off' **MANUALLY**.
- There is **NO SAFE PERIOD** between arc explosions – the **CABLE MUST BE CONSIDERED LIVE AT ALL TIMES**.

If you damage a cable, **YOU MUST**:

- **STAY OUT** of the excavation until the electricity operator's representative confirms the cable has been made safe.
- **NOT** leave the excavation unattended.
- **REPORT** the incident as soon as possible.
- **Contact** the Electrical Company.
- **ISOLATE** cables, IF safe to do so.

NOTE: laser light from fibre cables can cause permanent eye damage. In the event of a cable strike, where you do not know the kind of cable that has been cut, but which might be a fibre optic cable, do not look into the ends at all, and call the cable company immediately.

Fibre optic cables can also splinter creating shards of fibre which can penetrate the skin.

Buried Concrete

Mass concrete or concrete slabs may have been placed above, or around, any underground plant (cables or pipelines) to provide physical protection or anchorage.

When encountering mass concrete found during excavation works, you must:

- Select a route by either means of tunnelling or diversion that will not physically disturb the plant or concrete.
- Undertake a visual assessment to determine reasons if mass concrete may be present, i.e. search for marker posts, surface boxes, gullies, etc.
- Consult the plant owner if a new route is not possible, and for emergency work, and it is necessary to break out or disturb the concrete.
- Not carry out any further work until the plant owner and/or your line manager has agreed an alternative safe method of work or isolated the plant.
- Not disturb existing anchor blocks and their supporting ground, as this could cause sudden failure of the pipe.
- Comply with any permits to work issued by a plant owner.
- Consider contacting the electricity distribution company to have the cable isolated of removing the concrete is not possible.

Detailed guidance is contained within HSE Guidance HSG47 'Avoiding Danger from Underground Services.'

Buried Plant

When working in the vicinity of either identified or suspected buried plant, you should treat all plant as live, unless otherwise established, and you must be aware of and implement the following precautions where required:

- Determine the location of all buried plant by contacting the appropriate utilities or plant owners, e.g. Oil pipelines and BT.
- Obtain the assistance of the utility and plant owners, e.g. Oil pipelines, electricity companies, BT when gas is detected in telephone, electricity and service ducts, manhole covers, sewers or drains.

Mechanical Plant Equipment



- Must not be used within 500mm of a cable and LP/MP gas mains, services and electric cables.

- Consult your line manager before using in the vicinity of IP/HP gas plant.
- Excavation by powered tools must not be undertaken within 3m of the pipeline, unless authorisation from the pipeline operator has been obtained.
- Handheld power assisted tools must not be used within 1.5m of an NGN pipeline or associated equipment.

General

- Comply with the requirements of other utilities and plant owners e.g. oil pipelines, electricity and BT, when working in the vicinity of their apparatus.
- Take care on third party sites as single service providers do install multiple utility connections to properties, e.g. gas, electricity, water, etc. The use of a single trench to accommodate these utility connections may significantly reduce the separation distances between them, leading to a potential increased risk of damage when excavating in their vicinity.
- Where excavations have to be made within 10m of pressure regulating and gas storage facilities, precautions must be identified and advised to the colleagues excavating. These should include assessing the land to check for contamination and where necessary, assistance of a competent person to exercise control of the plant and ground.
- Damage to underground plant should be reported to your line manager immediately.
- Temporary supports to exposed underground plant must be provided to prevent deflection and rotation. Check that the method of protection employed is as agreed with the plant owner.
- Care should be taken on all buried plant to ensure existing anchor blocks, or their supporting ground are not disturbed, unless proper precautions have been taken to restrain pressure induced thrust.
- Where changes to the original method of excavation are made, a suitable and sufficient re-assessment of the hazards shall be undertaken prior to continuing.
- Use the correct PPE when excavating – gloves, overalls, safety shoes, hard hat, goggles (if required). Also, have breathing apparatus and fire extinguishers.

Safe Digging Practice

- The first tool of choice must be an air lance.
- Every effort should be made to excavate alongside the service rather than directly above it. Final exposure of the service should be by horizontal digging, as the force applied to the hand tools can be controlled more effectively.
- Safety spades and shovels (preferably those with curved edges) should be used rather than conventional shovels. Picks and forks must not be used in the vicinity of buried services as these are more likely to pierce cables. They must not be thrown or spiked into the ground but eased in with gentle foot pressure.
- Picks, pins or forks may be used, with care, to free lumps of stone etc and to break up hard layers of chalk or sandstone. Forks must not be used within the vicinity of electric cables.
- Picks must not be used in soft clay or other soft soils near to buried services.
- Once cables are exposed, materials or equipment that could damage or penetrate the outer sheath of the cable must not be used.
- Handheld power tools must be used with care until the exact position of the buried pipe has been determined.
- You must never use a mechanical excavator or machine powered surface breaker within 500mm of the known position of underground gas plant, unless approved by a site or operations manager.
- Excavators must be equipped with adequate mirrors to ensure drivers can see where people may be at risk from the operation.
- Members of the public and persons not involved in the operation of excavators should be segregated from the work area by suitable barriers.
- Check the ground stability when excavating parallel to a wall. Always seek advice before commencing work in such situations.
- Support all exposed plant and report any damage.
- Fire extinguishers and breathing apparatus must always be available, set up and set out ready for immediate use when excavating, if there is a risk of fire or gas escaping.
- Keep vehicles, plant, machinery and tools / equipment (not in use) away from the excavation.

Trench Support



- For excavations that will become, or may become, 1.2m deep or deeper (measured to the bottom of the working platform), a safe system of work must be agreed which will specify the required control, which will be one of the following:
 - Battering (unlikely to be appropriate technique).
 - Timbering / sheeting.
 - Support system.
 - Excavation sufficiently stable to not require additional support.

The risk assessment must detail the specified controls as agreed with your line manager.

A permit to work must be issued, in accordance with SCO2, for all excavations where any type of trench support system is used:

- Work in excavations less than 1.2m deep can be dangerous, and it may be necessary to provide support. Risks are greater when bending or kneeling in excavations. If in any doubt, seek advice from your line manager.
- To prevent loading the side of the excavation, which could lead to collapse, spoil must be placed as far away from the side of the excavation as possible. Wherever possible this should be a distance at least equal to the trench depth but must be a minimum of 300mm away in order to prevent additional loading on the trench wall.
- Access to any excavation is not permitted unless the requirements above are satisfied.
- Vehicle stops should be used to prevent vehicle from approaching too close to the excavations. These may consist of baulks of timber placed inside the fenced off area.
- All excavations must be inspected at the start of every shift by a person competent to do so, who fully understands the dangers and necessary precautions.
- Excavations must also be inspected, before work continues, after any event that may have affected the strength and stability, or after a fall of rock or earth. Any faults must be corrected immediately.

- At 2.5m deep a Davit Arm must be in situ and lifeline harnesses worn.
- Excavation at 2.5m deep or greater require specialist designs.

Extra care must be taken:

- During wet or frosty weather.
- When opening ground in the vicinity of previous excavations.
- Where there are variations in the nature of the soil i.e. pockets of sand.
- Where a crane or other mechanical plant is employed in close proximity to the excavation
- Where prolonged pumping in water-logged ground has been carried out.

Entry and Exit

- Provision for safe entry and exit to site and excavation to be made for personnel, equipment and materials. If any route is blocked or restricted, alternative access or egress to be provided. Access for emergency vehicles must be considered.
- A PTW is mandatory if excavations reach a depth of 1.2m in depth . Seek advice before entering an excavation deeper than 1.2m. Excavations have the potential to become a confined space. Confirm the requirements for a permit to work or written procedure before you enter an excavation deeper than 1.2m.
- Personnel wearing safety harness or breathing apparatus will require additional consideration to ensure safe access and egress.

Use of Ladders in Excavations



- Ladders must be inspected regularly by a competent person and recorded in the ladder register.
- Carry out a visual inspection before each use.
- Avoid climbing ladders in extreme weather conditions.
- Avoid overloading ladders, only one person at a time should be on the ladder at any one time.

- Ladders should be secured.
- When ascending or descending a ladder you should always face them.
- Ladders should extend to a height of at least 1m above the landing place.
- Extending ladders must overlap by at least 3 rungs when fully extended.
- Avoid using painted ladders which can hide defects.
- When a ladder is fitted with metal strengtheners it shall be used the correct way up.
- Any reinforcement should be on the underside of the rungs and be firmly anchored at both ends.

Use of Breathing Apparatus (BA)

Breathing Apparatus (BA) must only be used by trained, competent operators.

NOTE: Users of breathing apparatus must be passed medically fit for BA use by occupational health.



If you use breathing apparatus at work, you will require a health assessment to ensure your suitability / fitness for this task.

This will be included in your health surveillance appointment.

If your health status changes, in particular if you develop heart, blood pressure or lung problems, or you need to take regular medication, then you should inform your line manager, HR or Occupational Health immediately.

When working in excavations, breathing apparatus and a flame-retardant balaclava must be worn under the following conditions to safeguard persons from asphyxiation or internal damage to lungs, etc from breathing in burning gas:

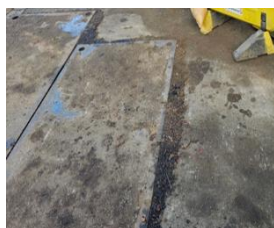
- If the excavation contains exposed gas mains or services, BA must be assembled and ready for immediate use. When using airline BA, this means that the BA must be taken from the vehicle to the work location, assembled, with the hose attached to the mask and extended. The mask must be sited adjacent to the working area, so that you can quickly and easily use it if the need

arises, e.g. hanging on the barrier at the side of the excavation.

- In adverse weather conditions, cover the mask with some form of protection, i.e. plastic bag, so that the internal part of the visor remains dry and clean. The BA kit must not be held in the box without being assembled.
- Before entering the excavation, check the atmosphere for gas and complete a RAT form if required.
- If gas is above 20% LEL or below 19% oxygen in the breathing zone, or the activity is likely to give rise to a gas release, then BA must be worn.
- Where one person is working in the excavation, the 2nd person must be on site acting as a safety man for the person in the excavation. Operational BA must be available for use by the Safety Man.
- Where two persons are working in the excavation, an additional person with BA must be in attendance.
- Safe and unaided egress to a position of safety must be available – if not, inform your line manager.
- Atmospheric testing must be continually carried out during the work.
- Where there is a significant increase in risk to safety, persons must leave the excavation immediately and a safe system of work agreed with the line manager.
- For excavations more than 1.2m deep, a safe system of work must be agreed with your line manager.
- Wearers of BA must be face fit tested for the type of mask work and maintain the clean-shaven conditions of the test when wearing BA.

See NGN/PR/DIS/3.1.1- Breathing Apparatus Use

Temporary Bridging



Use of Road Plates and Footway Boards.

Road Plates

Arrangements must be made for excavations to be backfilled / reinstated as soon as work within the excavation is complete. Where this is not possible consult your line manager.

The use of road plates must be avoided as far as possible by no-dig methods, reinstating or guarding the excavation with barriers and providing a better diversionary route for traffic, or where possible, a planned / emergency road closure. They must only be considered as the non-preferred option in any excavation works and where required, the duration of their use must be as short as possible, such as a maximum of 24hrs on planned work or up to 72hrs on emergency works.

Where road plates are required to maintain traffic movement, consult your line manager who will decide on the size and type to be used. On roads with high volumes of traffic, temporary bridging should only be used when other methods of excavation protection are not practical and following an on-site assessment.

Ensure that the trench or excavation sides are stable, or adequately supported, prior to using road plates or footway boards.

Road plates should be of sufficient size and with a suitable thickness steel plate to cover excavation and support the full range of traffic likely to be encountered. If in any doubt over suitability of a road plate, seek expert guidance prior to proceeding.

The plate should be of sufficient length to be firmly supported for at least 600mm on each side of the trench. This can only be reduced following an on-site assessment by a line manager and then can only be reduced to a minimum of 300mm either side of the trench edge, depending on stability of trench sides, support, traffic loading.

The plate width should be sufficient to provide a distance of at least 250mm from the wheels of vehicles to the edge of the plate.

For steel road plates it is recommended that they are no less than:

- ½ in or 13mm thick for light vehicular traffic (or domestic situations) up to a maximum trench width of 0.5m.
- ¾ in or 19mm thick for heavy vehicular traffic or works in the main carriageway (non-

domestic situations) up to a maximum trench width of 1m.

Road plates must be:

- Rigidly secured to the road surface.
- Sunk into the surface of suitable bitumastic material used to provide a ramp to the plate level.
- Provided with a skid resistant upper surface.

If the road plate does not completely cover the excavation the edge must be fenced to prevent falls.

Where road plates are proud of the road surface, ramps should be formed of suitable material e.g. bitmac, display 'Ramp' traffic warning signs.

When unattended, or subject to frequent use by heavy vehicles, road plates should be secured by pinning or sinking into the road. All road plates on unmanned sites should be submitted to visual inspections on a regular basis. Road plates are too heavy to be manually lifted and require mechanical lifting equipment. Slings **MUST NOT** be used.

Steel road plates must be stored either flat on supports in designated areas, clear of other plant and equipment, or in purpose-built racking designed to prevent accidental uncontrolled movement when handling. Road plates must be adequately secured on delivery vehicles or trailers during transit. Wear safety footwear, high visibility clothing, gloves and safety helmet, when road plates are being positioned by a lifting appliance.

Oxford Low Pro 15/05 Road Plate (trench link) Installation Guide

For further fitting guidance see full manufacturer's instructions

LowPro 15/05 Road Plate – Driveway & Pedestrian Trench Cover is a heavy-duty modular system comprising individual units linked together.

The SMC (Sheet Module Compound), GRP (Glass-Reinforced Plastic) vehicle road plate trench cover is an alternative to steel plates.

The anti-slip surface provides secure pedestrian access and is ideal for use in residential areas.

The integral flexi-edge of the LowPro road plate is designed to minimise road noise.

Easy to use and transport, this long lasting and robust composite trench cover can take up to a 44-tonne vehicle over a 700mm trench. The LowPro road plate can be used on construction sites, excavations and streetworks.

It should be bolted down to the carriageway to use.

Footpath Boards



The use of footway ramps must be avoided as far as possible by no-dig methods, reinstating or guarding the excavation with barriers, and providing better diversionary routes for wheelchair and pushchair users.

They must only be considered as the non-preferred option in any excavations works and where required, the duration of their use must be as short as possible.

During excavation work, where it is necessary to maintain pedestrian and light vehicle access on footways for driveway access only, use footway boards which are designed for vehicular use and meeting NGNs specification must be used.

Purpose built pedestrian bridging boards, **which are designed for pedestrian use only**, must not be used on roadways or driveways where vehicular traffic could be anticipated.

A risk assessment must be undertaken before the footway board is used.

This must take account of the level of pedestrian usage (including children & disabled), whether an alternative access route can be arranged, the type of area (shopping centre, schools, high risk of vandalism), weather conditions.

You must also consider if the footway board will adequately span the excavation and whether it can be securely fixed in place.

If your risk assessment identified that any of the above cannot be adequately controlled on a footway board must not be used and alternative arrangements must be made. If in doubt, contact your line manager.

When footway boards are used:

- The side of the excavation must be stable or suitably supported under the board.
- Footway boards must be rigidly fixed down i.e. screwed or stuck down.
- There must be no gap between them if two boards are placed together.
- They must be positioned so they do not present a tripping hazard.
- On a vehicle crossover, the whole width of the crossover must be boarded, not just the tracks for the wheels.

Backfill & Reinstatement

You must carry out regular inspections of the existing trench walls during backfill operations as vibration of compaction equipment may loosen or cause wall failure.

Where it has been necessary to support trench walls during excavations, a competent person must ensure the safe, systematic removal of trench support. New and existing plant must be adequately protected and supported during compaction and / or backfill to prevent against damage. Extra consideration should be given when using foam concrete as backfill material. Extra precautions may include appropriate fencing, full plating over the excavation, warning signs or full-time supervision.

Potential Health Hazards

Noise & Vibration



Road breakers, rock drills, vibro-tampers, Stihl saws, handheld pavement cutters, drills and angle grinders are sources of both loud noises and high vibration levels.

Where this equipment is handheld, the vibration can damage the nerves in the fingers and blood circulation causing damage to muscles and bones. This is known as Vibration White Finger (VWF) a form of Hand Arm Vibration (HAV).

To reduce the potentially harmful effects of this type of equipment, ensure that you wear the recommended hearing protection and when looking to use vibratory equipment, that you minimise your exposure by:

- Use equipment in a way that reduces the transfer of vibration through the body.

- Ensure tools are maintained.
 - Rotate use of tools within the team
 - Keep your hands warm.
 - Reduce, or give up, smoking.
 - Work within the exposure limits.
 - Log daily exposure times via the HAVs app.
- Vibration exposure limits are set to protect your health and reduce the possibility of getting a Hand Arm Vibration related disease. You **MUST** stay within these limits, or any reduced limits you may have had set for you.

Upper Limb & Back Problems

Digging and shovelling should be minimised by use of mechanical diggers.

Where this is not possible due to underground services or other reasons, you must dig and shovel in the best way to avoid damaging your back and shoulders.

This would involve:

- Staying fit and flexible
- Warm up, particularly on cold days, to prevent pulling muscles and to improve blood circulation and breathing.
- Plan the job to minimise the amount of digging, lifting and the distance of depositing the spoil.
- Share the workload between the team and take regular, short breaks.
- Don't overstretch or unbalance yourself.
- Reduce the size of the items being lifted.
- Take extra care when digging in hot weather – keep hydrated by drinking water regularly. Wet weather may reduce your foothold and balance and makes spoil heavier.

Respiratory Hazards

Beware of fumes and gases within excavations that can cause asphyxiation and/or poisoning e.g. exhaust fumes, nitrogen (purge gas), distributed natural gas, LPG / Butane gas, solvent fumes from coatings and sealants.

Take advice if you are working in contaminated land or adjacent to landfill sites as carbon dioxide, an asphyxiant gas, and other toxins, may be present in the soil at elevated levels.

Do not position petrol or diesel engine equipment or vehicles (vans, compressors) close to excavations unless fumes can be ducted

away, or the area is well ventilated. Consider the possibility of build-up of exhaust fumes from stationary or slow-moving, heavy traffic alongside the work area.

Breathing in fine dust from activities such as using pavement saws will damage your lungs and have long-term effects on your health. Always damp down dusty activities, wear eye and respiratory protection.

Refer to NGN/PR/SW/1 Excavations, NGN/PR/SW/6 Cat & Genny Radiodetection Locators and HSE Guidance HSG47

Fibre Glass Meter Boxes



Some people can suffer skin reactions when coming into contact with fibreglass meter boxes. If there is evidence that the meter box surface has degraded (darker in colour, grey appearance and staining), you should take these precautions:

- Avoid direct skin contact.
- Ensure sleeves of protective clothing are rolled down.
- Wear protective gloves.
- Minimise physical contact with the meter box surface.
- If meter box has to be removed for access to meter, wear dust mask to prevent inhalation of glass fibres.
- If meter box is being scrapped, avoid breaking up into smaller pieces.

Fire Precautions

NGN has completed fire risk assessments for all fixed locations (occupied and unoccupied) with the exception of construction sites.

Please contact your line manager if you need to see a fire risk assessment.

NGN have adopted a generic risk assessment approach for certain types of unoccupied sites.



Fires in Buildings

You must never attempt to extinguish a fire unless you have been trained to do so. In the event of discovering a fire, sound the alarm and evacuate the building immediately.

You should have received instructions regarding the correct evacuation procedures to be taken in the event of a fire, in any building that you work in or visit.

This information may vary from building to building but as a minimum, procedures should provide advice on the following:

- Raising an alarm.
- Building / site evacuation practices.
- The location of all building fire call points.
- Safe exit routes (including alternative routes in case of obstruction).
- Confirmation of appointed fire wardens.

If you have not received any instructions, please contact your line manager or the site manager if it's a site you are visiting.

You must report to your line manager defective equipment such as fire alarms, signs, blocked or faulty fire doors, missing / damaged or out of service date fire extinguishers.

Fire Safety in End User Premises

When working in potentially gaseous atmospheres, you must follow procedures to minimise the risk of ignition by extinguishing naked flames, removing other ignition sources and switching off electrical apparatus, provided that the gas readings above and below the apparatus and its switch do not exceed 70% LEL. Open any emergency / other access doors / entry points.

- Where additional light is required, use the safety torch provided.
- Erect 'NO SMOKING' signs.
- Prevent unauthorised entry.
- PPE, including fire resistant clothing must be worn.
- Breathing apparatus to be available as appropriate.

Gas Services / Mains on Fire

- Do not put yourself at risk.
- Set up an exclusion zone for public and emergency services.
- Site all vehicles and equipment up wind and at safe distance away from the fire

- Remove all potential sources of ignition / re-ignition.
- Survey site and identify other flammable material suppliers, i.e. petrol stations, Calor gas depots. Consider closing these down until the incident is over.
- When additional staff arrive on site, they should be briefed on the control measure in place on site.
- Ensure all gas personnel on site (Including Engineers) are wearing flame retardant clothing and PPE, including having fire suits to hand if required.
- Ensure all parties on site know who the officer in charge is (OIC is the senior gas person on site).
- Consider reducing the pressure in the main to a safe workable level – a must on pressures over 75mbar.
- Where possible, allow the fire to burn until it can be extinguished in a controlled manner and a repair can be carried out.
- If the gas supply is to be cut off, the fire should be extinguished using a dry powder extinguisher and the supply immediately and completely shut off.
- Instruct the fire service to damp down the surrounding area and any buildings with a fine mist spray.
- When the fire is extinguished, ensure the fire service is instructed to damp down area to avoid re-ignition.
- After the fire has been extinguished, ensure no-one is allowed near the escape area until all clear is given by the OIC.
- Fires are not always caused by third party damage, consider the presence of a damaged or faulty electric cable. Proceed with caution.

Forcing Entry to Premises

If gas or fumes are suspected in a building and forcible entry is necessary, you should take the following precautions:

- Where possible, two people should be present during entry, i.e. a neighbour or police officer or colleague.
- Consider additional hazards such as animals that may be in the property .
- You should not use bodily force.

- Where time and circumstances allow, ALL glass should be taped before breaking to enter.
- Always use the right appropriate tools such as a hammer for small windows and door panels, pinch bar or sledgehammer for full doors
- Always check for loose or jagged edges on broken glass or wood, before entering the property.
- You must wear gloves, goggles and appropriate PPE.
- Take necessary steps taken to prevent sparks.

Governor Equipment

You must seek advice from your line manager when working within 10m of a pressure regulating station, governor installation or within a holder station.

Take special care not to damage impulse lines to such equipment.

Grievances at Work/Workplace Conflict

Overview

All NGN colleagues have a responsibility to create a working environment that is free from conflicts, discrimination, harassment and bullying. We are all responsible for not behaving in a manner that could have a detrimental impact on another person's ability, wellbeing (physical and mental) and confidence to carry out their work.

NGN has policies which are designed to set out expectations on how our colleagues should be treated, and how we should treat each other; this can be found in our Inclusion & Belonging Policy and our Esteem in the Workplace Policy on [myNGN - Policies & Procedures - HR View](#)

The intention of these policies is to set the expectations of how we treat each other in order to prevent unwanted behaviours occurring, however if they do occur then they raised and dealt with swiftly and appropriately.

However, if something does go wrong our grievance procedure enables colleagues to raise complaints, seek to resolve conflicts, identify and solve cause of dissatisfaction, reduce tension in working relationships, and to improve communication and understanding.

Ways to Resolve a Complaint

Wherever possible, every effort should be made to resolve the situation informally, however, it is recognised that there may be instances where a colleague may wish to make a formal complaint from the outset. Advice and guidance can be sought from our HR Team at any time on how to address an issue.

How to tackle something informally:

- Talk directly to the person responsible in order to address the issue/conflict. You may wish to ask a colleague or representative to help support you with this discussion.
- In some instances, you may find it easier to write to the person who you feel is responsible. It is recommended that a copy of this communication be retained.

If the above fails to achieve the desired effect, or if an informal approach is not appropriate a formal complaint should be made, in writing. Please refer to the Grievance procedure ([myNGN - Policies & Procedures - HR View](#)) or contact a member of the HR Team or your TU representative for support.

Grit Blasting



Grit blasting operations must only be carried out by suitably trained personnel / contractors. A PTW will be required as per SCO/2. Areas where grit blasting operations are to be undertaken should be checked for gas leakage using suitably tested equipment prior to work starting, and at regular intervals during the operation.

Working areas should cordoned off with barriers and screens to protect members of the public and other workers.

Hazardous/Dangerous Substances



Substances can harm you in various ways:

- Breathing in dust, fumes, aerosols or vapours.
- Skin contamination – chemicals attack the skin or are absorbed through the skin to affect other organs i.e. liver, kidneys, brain.
- By injection – due to contact with sharp objects which directly introduce harmful materials into the body or provide a route through which they can enter.
- Eye contamination.
- Ingestion – contaminants on hands transferred to mouth, or accidental mouth contamination.
- Asphyxiation – where the substance replaces the oxygen in the air.

Hazardous substances can also cause fire or explosions due to other properties of the substance i.e. radioactive. You may come across hazardous substances which are used e.g. adhesives, cleaners, or produced, e.g. solvent fumes, dust from shredders, or encountered, e.g. contaminated water.

Substances can also harm the environment in various ways:

- By spills contaminating land, drains and water courses.
- By substances being toxic to plants and animals.

For each activity you undertake, a Risk Assessment will have been carried out. Additionally, where activities have been identified which involve hazardous substances, a further assessment will also have been undertaken which documents the risks due to the substances, and the precautions that need to be in place. You have been briefed on the assessments covering your work activities.

It must be emphasised that any COSHH data sheets supplement, but do not replace, local operating procedures. If you come across any

materials which do not have a COSHH data sheet, consult your line manager.

Substances which pose a risk to health by inhalation may have exposure limits set, which define the levels in the atmosphere which must not be exceeded. The limits may be short term, restricting exposure to immediately hazardous substances, or long term for substances where health effects arise from prolonged exposure. The limits are set to ensure safety of people exposed for 8 hours per day throughout a working lifetime.

Activities which may involve exposure are regularly monitored and all results are well below any relevant exposure limits. The exposure limits are included in the COSHH assessments and are available in the Health & Safety Section of this book.

When working with Hazardous Substances you must follow these guidelines:

- Follow procedures.
- Understand how substances can harm you, and the environment.
- Always read the hazard label.
- Take necessary precautions as specified on the COSHH sheets.
- Use only company approved substances that have local COSHH assessments.
- Attend health surveillance appointments when requested.
- Only use the equipment, or substances, for the purpose for which they were designed.
- Do not mix chemicals, except as directed by the manufacturer / supplier.
- Use safety equipment supplied (i.e. extractor fans).
- Correctly wear, maintain and store PPE (workwear, gloves, dust mask, goggles, etc)
- Observe good hygiene practices.
- Store all hazardous substances securely to prevent unauthorised access and to prevent accidental release to the air, land or water via the drains. Hazardous liquids must be stored on drip trays.
- Dispose of waste containers and substances responsibly.
- If unsure, seek advice from your manager.

Do not touch, use, or smell unknown or unidentified materials or containers. If these are encountered, consult your manager.

What is "Good Hygiene Practice?"

Personal Hygiene

You must remove PPE (gloves, dirty overalls, etc) before eating and drinking. You should use hand care products, anti-bacterial soaps, barrier creams, skin conditioners, as appropriate.

Washing your hands and forearms with warm water and soap after each visit to the toilet and before eating and drinking.

Don't forget to dry your hands!!

Pay particular attention to washing skin under rings, watch straps, etc.

Don't eat, drink or smoke around the work area, use designated facilities or other suitable areas.

Cuts and abrasions should be cleaned, and waterproof dressings applied.

Personal Protective Equipment (PPE)

You must ensure that PPE, when not in use, is stored so that it remains clean. You must not wear dirty, damp or otherwise contaminated overalls. You must not put oily or contaminated rags into pockets.

You should avoid taking dirty overalls home for washing.

Site Hygiene

You must dispose of waste in line with local procedures. You should not discard food stuff onto floor of vans, office or site.

If you are concerned about the condition of your skin and/or any other health issues, contact your line manager or the Occupational Health Team.

Hazard Markings

There are a wide range of substances which pose risks by inhalation, skin absorption or ingestion. The following hazard markings indicated on containers, show the hazards and precautions to be taken in order to prevent risk of adverse health effects.

Oxidising:



Chemicals and preparations that react exothermically with other chemicals.

- May cause, or intensify, fire – Oxidiser.
- May cause fire or explosion – Strong Oxidiser.

The symbol is usually found on bleach, oxygen for medical purposes, etc.

Explosive:



Chemicals and preparations that explode.

- Explosive – severe projection hazard.
- Explosive – fire, blast or projection hazard.
- May mass explode in fire.

Flammable:



Chemicals that may catch fire in contact with air or may only need brief contact with an ignition source, have a very low flash point or evolve highly flammable gases in contact with water.

- Extremely flammable gas.
- Flammable gas.
- Extremely flammable aerosol.
- Flammable aerosol.
- Highly flammable liquid and vapour.
- Flammable liquid and vapour.
- Flammable solid.

Health Hazard:



Chemicals that may cause damage to health. Symbol is also known to mean caution.

- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- May cause an allergic skin reaction.
- Causes serious eye irritation.
- Causes skin irritation.
- Harmful if swallowed.
- Harmful in contact with skin.
- Harmful if inhaled.
- Harms public health and the environment by destroying the ozone in the upper atmosphere.

Toxic:



Chemicals that at low and very low levels cause damage to health.

- Fatal if swallowed.
- Fatal in contact with skin.
- Fatal if inhaled.
- Toxic: If swallowed.
- Toxic: In contact with skin.
- Toxic: if inhaled.

Corrosive:



Chemicals that may destroy living tissue on contact.

- May be corrosive to metals.
- Causes severe skin burns and eye damage.
- Usually found on drain cleaners' acetic acid, hydrochloric acid, ammoniac, etc.

Dangerous for the Environment:



Chemicals that may present an immediate, or delayed, danger to one or more components of the environment.

- Very toxic to aquatic life with long lasting effects.
- Toxic to aquatic life with long lasting effects.
- Usually found on pesticides, biocides, petrol, turpentine, etc.

Serious Health Hazard:



Also known to mean long term health hazards. These are chemicals that can cause serious and long-term damage to health.

- May be fatal if swallowed and enters airways.
- Causes damage to organs.
- May damage fertility or the unborn child.
- Suspected of damaging fertility or the unborn child.
- May cause cancer.
- Suspected of causing cancer.
- May cause genetic defects.
- Suspected of causing genetic defects.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Gas Under Pressure:



Gas stored under pressure, such as in gas containers.

- Contains gas under pressure – may explode if heated.
- Contains refrigerated gas – may cause cryogenic burns or injury.
- Usually found on gas containers.

Carriage of Dangerous Goods



Carrying goods by road involves the risk of traffic accidents. If the goods carried are dangerous, there is also the risk of an incident, such as spillage of the goods, leading to hazards such as fire, explosion, chemical burn or environmental damage.

Most goods are not considered sufficiently dangerous to require special precautions during carriage. Some goods, however, have properties which mean they are potentially dangerous if carried.

COSHH sheets give suitable TREM card information and should be understood by the driver and provided if asked about your load.

Tankers

If you are transporting dangerous goods by road in tanks, the regulations apply whatever the quantities you are carrying.

NOTE: MEG is not classified as dangerous goods.

ADR Driver Requirements

When ADR applies NGN should employ the services of a competent Dangerous Goods Safety Advisor/ Consultant to check out works periodically.

There are specific points which must be adhered to at all times by drivers carrying dangerous goods.

Part 8 of ADR covers most of the elements that the carrier has to deal with, and includes:

- Driver training.
- Equipment to be carried, including fire extinguishers, spill response kits, wheel chocks, pocket lamp, warning signs, warning vest etc.
- Documentation.

There are limits on how many gas bottles and how much petrol or diesel you can carry in a vehicle.

- 60L in portable fuel containers.
- 1000L of diesel in a bowser.
- 333L of petrol in a bowser.

Orange Panels /

Hazard Panels



When ADR applies, plain orange panels must be displayed to the front and rear of the vehicle.

Where the vehicle has a mounted tank container or is towing a trailer with a permanently fixed tank, then, in addition to the orange panels at the front of the vehicle, hazard warning panels must be displayed to the rear and both sides of the vehicle or trailer.

These should include the appropriate UN number, emergency action code, danger sign and telephone number where specialist advice relating to the substance can be quickly obtained.

Driver Training

Anyone transporting or assisting with the loading or transporting of dangerous goods, requires general safety training for the carriage of dangerous goods.

Anyone who transports, or assists above the ADR limit, will require additional training.

Additional Safety Notes – Transportation of Cylinders

- Wear safety footwear, gloves and eye protection when handling cylinders.
- Do not remove or deface labels used for identification.
- For the carriage of cylinder gases an open vehicle, or an enclosed vehicle specifically designed for the carriage of cylinder gases, must be used.

Closed vehicles regularly used for the transport of gas cylinders must be designed to prevent a build-up of hazardous atmosphere, this can be achieved by provision of adequate high and low-level vents to prevent the build-up of both heavy and light gases.

Cylinders should be stored in a separate load compartment from the driver.

- Do not drop or throw cylinders into the vehicle.
- Cylinder valves must be closed whilst in transit. and any connected equipment depressurised.
- NO SMOKING when carrying flammable gas (LPG, Hydrogen, Acetylene) or oxygen.
- Protect gas cylinders from naked flames and heat sources.
- LPG cylinders should be carried in a vertical position with valves uppermost.
- It is the driver's responsibility to ensure the load is safe.
- Cylinders should be properly loaded and secure so that they do not move.

If, at any time, a cylinder is suspected of leaking, park the vehicle in a safe place and contact your line manager for advice.

- Return empty cylinders to the supplier as soon as possible.

IMPORTANT NOTE:

- The majority of hazardous substances supplied by the company are in packages which DO NOT exceed the individual threshold values and therefore the CDG road regulations and ADR WILL NOT APPLY.
- Where CDG Road Regulations DO NOT APPLY, drivers must still carry information about the hazardous goods being carried (e.g. COSHH Sheets).
- Where dangerous goods are being transported by road in tanks, CDG Regulations apply whatever quantities are being carried.
- **NEVER** transport dangerous goods if you are not qualified.

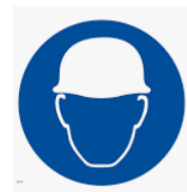
Flammable Liquids

When you are required to use, store or transport flammable liquids e.g. for refuelling mobile plant, refer to the relevant COSHH sheet.

Flammable liquids stored inside the premises must not exceed 50 litres and should be contained in special flame control drums or containers, or in flame resistant cupboards.

Hazard warning signs must be displayed.

Head Injuries



To avoid any injury to your head, you must always wear a well maintained and in date safety helmet when:

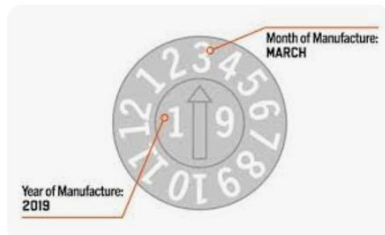
- As required by a risk assessment.
- The mandatory 'Hard Hat' safety sign is displayed.
- Entering an identified dangerous area.
- There is a risk of head injury e.g. working with mechanical plant, on construction sites, in deep excavations and warehouses.

Hazards and Precautions Book

This will reduce the risks of head injuries from falling objects.

You may wear a bump cap instead of a hard hat when working in restricted spaces e.g. governor or regulator rooms, or under-stair cupboards. This will reduce the risks of head injuries from colliding with objects/equipment!

Hard hats usually have the date (year and month) they were manufactured moulded on the inside of the helmet.



Typical marking for Hard Hat Manufacture Date

The hat must be replaced within five years of this date, three years of use or if the helmet shows sign of damage or excessive wear.

Homeworking



NGN is committed to improving the working lives of its colleagues and to encourage a healthy work life balance and aims to ensure that all staff work in the most effective and efficient way. There should be an appropriate work environment which optimises productivity and performance.

It is recognised that a traditional 'office-based working' approach does not necessarily support this in all cases.

It is important to appreciate that there is no automatic right for colleagues to work from home

or for NGN to insist on colleagues working from home. Requests to work from home or remotely will be reasonably considered and where they are deemed not to be appropriate, a written explanation will be provided. Each application will be considered on its individual merits.

Please refer to the latest version of the Homeworking Policy on MyNGN - Policies & Procedures - HR View for more details.

When assessing any risks arising from homeworking arrangements, consideration must be given to the following via a risk assessment:

- Is the role suitable for home/remote working?
- Data security and the protection of any equipment.
- Regular communication with your Line Manager and/or team members.
- Effectiveness of working from home (outputs, adherence to deadlines).
- Personal security/ Emergency arrangements/safeguarding.
- DSE arrangements/Suitability of home/remote location.

See NGN/PM/EHS/06 Homeworking

Horizontal Directional Drilling (HDD)

Horizontal directional drilling (HDD) is a minimal impact trenchless method of installing underground utilities. The drill is used in a prescribed underground path using a surface-launched drilling rig. Directional boring offers significant environmental advantages over traditional cut and cover pipeline/utility installations.

HDD is accomplished in three principal phases. First, a small diameter pilot hole is drilled along a directional path from one surface point to another. Next, the bore created during pilot hole drilling is enlarged to a diameter that will facilitate installation of the desired pipeline. Lastly, the pipeline is pulled into the enlarged hole, thus creating a continuous segment of pipe underground exposed only at the two initial endpoints.

It is vital that all services in the path of the HDD process are identified and that trial holes are dug, and a drill plan is drawn up.

The path of the drill head must be monitored, and measure taken to ensure that all slurry and run off are managed and spills are avoided.

Only competent persons can undertake HDD and the process can only take place when method statements and risk assessment have been carried out.

HDD requires an authorised permit to work authorised by an NGN Competent and Appointed Engineer.

Hot Work



Hot work on sites must only be carried out in conjunction with a 'Permit to Work' system, in accordance with SCO Procedures and will be subject to a separate risk assessment.

Types of hot work may include the creating of sparks and flames including welding, grinding, burning etc.

Housekeeping

It is important to keep work areas free from any potential tripping, slipping and stumbling hazards. Ensure work areas are kept clear and work equipment is stored correctly after use. This will help eliminate incidents and fire hazards and make the area a better environment for work.

Everyone has a responsibility to work safely and maintain good housekeeping.

Legionnaires Disease



Legionnaires Disease is a rare condition which usually gives similar symptoms to those of pneumonia or flu.

It is normally contracted by inhaling legionella bacteria in tiny droplets of water (aerosols). The bacteria which cause it is commonly found in surface water, soil and where water has been stagnant if the right temperature exists.

It is not normally found in mains water, but, given the right conditions it can establish itself in a building's water system (dead legs & unused sections)

Legionella bacteria are common and can be found naturally in environmental watercourses such as rivers and lakes in low numbers.

They can survive in a variety of conditions and in water at temperatures between 6°C and 60°C.

All sites which have hot/cold water supplies should have a risk assessment carried out for Legionella. The risk assessment will identify control measures to ensure that the level of bacteria is kept to a minimum level. e.g. systems ed, flushed and disinfected and regular checks for temperature and bacteria.

Control Measures

When pressure washing plant and equipment you must always use mains water. Do not spray stagnant water.

Respiratory protection must be worn when cleaning open tanks, unless high pressure hoses are being used, in which case positive pressure air supplied breathing apparatus must be worn.

Lift Trucks



You must be certified and fully trained to use any type of lift truck. Regular maintenance and statutory checks on the lifting gear must be carried out by a competent person and available for inspection.

Before, and when, using a lift truck, make sure you:

- Check it is fitted with a working audible alarm and hazard warning beacon.
- Are aware of the Safe Working Load (SWL) This should be stated on the lift truck capacity plate or capacity chart on the forklift.
- Observe any speed restrictions and warning signs displayed.
- Are aware of any pedestrian and lift truck demarcation zones, and any one-way systems in operation on a site.
- Re-fuel outside buildings in a safe place.
- Use a banksman when operating in blind spots or difficult circumstances.

- Immediately report any stack, racking, pallet or cage considered unstable to your supervisor / line manager.
- Are wearing sufficient PPE to include – hi-vis jacket/waistcoat & footwear.

If a fault occurs with your lift truck during normal operating routines, you must stop immediately. If possible, lower the forks to the ground and isolate the truck (remove the keys) before reporting the details to your manager. For hired lift trucks, a copy of the thorough examination report must accompany the truck and be available for inspection.

Lifting Operations



All lifting operations must be properly planned by a competent person, who will consider the complexity of the lift, adverse weather conditions, additional control measures such as a site-specific assessment, or if a Permit to Work is required.

- Only properly tested, examined and inspected certified equipment must be used. Ensure that thorough examination certificates for lifting equipment / accessories area available.
- Equipment & Lifting tackle must be suitable for the task and load (SWL must not be exceeded) and be examined prior to use. Relevant information should be clearly displayed i.e. safe working loads marking on jibs, clamps, slings, etc.
- Only trained, certified personnel can operate equipment and act as banksman.
- High visibility clothing and safety helmet must be worn at all times.
- Personnel on site must be warned that lifting is about to commence.
- No lifting operation must take place over personnel.
- General public must be excluded from the area for the duration of the lifting operation.
- Point lines / guide ropes must only be used to position a load.
- Loads must not be left suspended.
- Limbs must be kept clear of hydraulic bucket and stabilisers when in use.
- Operators must not go below the bed of the vehicle when in the elevated position.

Lifting in the Vicinity of Live Gas Plant

When lifting in the vicinity of live gas plant, protection of people and damage to live gas plant must be considered and a Permit to Work issued (planning of the lifting operations and the positioning of vehicles, plant and equipment)

Lifting on, or near, High Voltage Electrical Equipment

Any lifting operations on, or near, HV electrical equipment must be considered as 'complex lifts' due to the HV hazards present.

Lifting using 2, or more, items of Lifting Equipment or a Complex Lift

Where 2 or more items of lifting equipment are used simultaneously to lift a load, e.g. 2 lorry loaders (Hi-Ab lorries) or 2 side boom tractors, a written plan must be drawn up by a competent person.

NOTE: When JCB type equipment is to be used for lifting operations, the operator must hold the appropriate CITB (or company approved) lorry loader / operator certificate. The Jib must have undergone an annual inspection if being used for lifting operations, and the lifting hooks must have had a six-monthly inspection.

There is currently NO approved load indicator system for JCB type equipment.

Hose burst protection kits must be fitted when JCB type equipment is used for lifting operations.

See NGN PM EHS 14 Lifting Equipment

Liquified Petroleum

Gas (LPG)



Some company systems operate on LPG and LPG may also be encountered when carrying out investigation into gas escapes or changing meters. The following hazards should be considered when operating on such systems.

- LPG has a characteristic smell. This enables detection by smell of the gas at concentrations down to approximately 0.4% of gas in air.

- LPG forms flammable mixtures with air in concentrations of between approximately 2% and 10%. It can therefore be a fire and explosion hazard if stored or used incorrectly.
- Any vapour/air mixture arising from leakage may be ignited at a distance from the point of escape and the flame may travel back to the source of the leakage.
- If LPG escapes into a confined space and is ignited, an explosion could result.
- LPG is heavier than air. Any gaseous escape of LPG will therefore flow along the ground and into drains, cellars, pits, etc. It will sink to the lowest level it can find and does not disperse easily.
- In situations where LPG is known to be the escaping gas, buildings should be evacuated at a reading on the standard Gasco-seeker at 10% LEL.
- LPG vapour is slightly an aesthetic and may cause suffocation if present in sufficiently high concentrations.
- LPG vaporises rapidly and the consequent lowering of temperature can cause severe cold burns to the skin.
- LPG is colourless and if spilt in its liquid form on water will float on the surface before vaporising.
- LPG has different characteristics / flammable limits to natural gas.
- Significant leaks may also be detected by icing in the area of the leak.
- Personal Protective Equipment such as gloves, goggles, fire resistant clothing and Breathing Apparatus must be worn when working on plant or live gas.
- Gloves and goggles must always be worn when working on equipment that could have been affected by the cooling effect caused by rapid vaporisation to prevent cold burns.
- In areas where whole networks operate on LPG, specific training should be carried out for all distribution teams, TCPs and governor personnel.
- Specific LPG Gasco-seekers should be available, the standard Gasco-seeker is not calibrated for LPG or LPG/air. However, this instrument can be used for pin-pointing escapes on LPG.

Lone Working



Lone workers are those who work by themselves without close or direct supervision. Colleagues are also considered to be working along if they have neither visible or audible communication in the event of an incident.

NGN has carried out a risk assessment for lone working and has identified a list of lone worker roles, but most colleagues will work on their own at some point.

Hazards of working alone:

- Violence, threats or abuse.
- Injuries from animals / pets.
- Accidents where the consequences are worse if there is no immediate attention.
- Lone manual handling.
- Accidents as a result of 3rd party interference
- Long term impact on health (both physical and mental) from working in isolation, lack of supervision, knowledge or training.

Risk Assessment

The lone worker's manager should identify all the issues relevant to foreseen circumstances, but there may be occasions where a dynamic risk assessment is required in situations outside an employer's control.

The level of supervision needed is a management decision based on the level of risk.

General rules for lone working:

- Officially identified lone workers should have received a briefing on the lone working procedure, first aid training, conflict resolution, how to summon assistance and relevant communication methods.
- Lone workers, particularly those working at remote sites and locations, or involved in making calls to private dwellings, should make arrangements to keep in regular contact with the line manager, base location or call centre.

Where you report to unmanned operation units, consideration should be given to twinning with a partner – passing details of tasks, activities or locations, together with a finish or return time. Line Managers must be contacted on all occasions where there is a situation of uncertainty for any aspect of work.

When working in remote locations you must consider the ease of access for emergency

services, if necessary, and ensure that first aid equipment is available to you.

Conditions of the Workplace

Before starting work, you must identify and make arrangements for a safe means of entry and exit from your workplace, and ensure you have the necessary illumination where required. The immediate physical terrain and climate within the area you will be working, must also be assessed for hazards.

Communication

When working alone you should ensure you are equipped with either a mobile telephone, or, where a risk assessment deems necessary, a lone worker device. These units have a man down and distress button functions to maintain communication with NGN Dispatch.

Local arrangements may be necessary where electronic communication on a regular basis is not possible i.e. log sheets, diaries with route details.

If you are a lone worker and your first language is not English, there must be clear communication arrangements in place.

Plant and Equipment

Ensure that all plant, substances and goods involved in the work can be safely handled by yourself. Consider if the work will involve you lifting objects which are too large or heavy to be lifted on your own, or whether another person will be required to operate essential controls for the safe operation of plant and equipment.

NOTE: Your personal safety is paramount. Whilst working alone, if you feel that the activity cannot be undertaken in a safe manner, do not start work, seek immediate assistance / advice from your line manager, base location or call centre.

Further detail is available in the management procedure for Lone Working NGN/PM/EHS101

Mains – Working Near Gas Pipes



Cutting Out

Mains should be cut before the section is removed. Damp sacking, or equivalent, should be arranged over the pipe to be broken out. Operatives should position themselves to minimise the risk from hammer blows glancing off the main.

Use approved mechanical aids or cutting device where possible to reduce the need to break out the cut piece.

Any live ends must be supported prior to break out. Breathing Apparatus and fire extinguishers must be available for use. Ensure a temporary continuity bond is installed.

Operatives should be aware that the main may contain harmful substances – refer to COSHH assessments.

When cut by machine, there may be sharp edges to the cut – care needs to be taken around these cut ends. Care must be taken when sealing the annulus.

Operatives should be aware that the main may contain harmful substances.

Refer to NORM/Pyrophoric Dust in Environment section.

Failure of Metallic Mains

Whenever possible, ductile iron mains must be identified prior to excavation. All personnel must be made aware of the presence of the ductile iron main, and the hazards associated with it.

Consideration should be given to reducing the pressure within the main prior to starting work. A contingency plan should be developed including the identification of suitable isolation valves. This should address potential failures during operations including any re-pressurisation. An emergency / contingency NRO must be written and raised with Network Control prior to works commencing.

Fire suits, breathing apparatus and fire extinguishers must be available for use. Care

must be taken during any physical operations on, or near, the main to minimise the risk of disturbing any corrosion plugs which may be present.

Manual Handling



You carry out manual handling whenever you transport or support a load using human effort. This includes lifting, putting down, pushing or pulling, carrying or moving by hand or bodily force, or even when using a mechanical aid such as a trolley.

To reduce the risk of injury, manual handling operations have been assessed and appropriate controls identified.

A hierarchy of controls should be applied to avoid injury from manual handling/lifting operations.

- Manual Handling should be avoided if possible.
- Mechanical aids should be used to assist in the moving or transportation of loads.
- If the lifting of objects is unavoidable then this should be done with assistance or using safe liftings techniques providing this can be done without hard to those carrying out the task.

A number of manual handling risk assessments have been carried out for a range of activities at NGN. These are available on the Safety Centre.

Any manual lifting operation should be assessed when considering the TILE principles:

Tasks which are carried out in the working environment.

Individuals who are carrying out the tasks

Loads which are being carried

Environment in which the loads are being carried.

TASK

- Is the load being held at a distance from the body?

Holding a load at arm's length imposes about 5 times the stress experienced when holding the same load very close to the body.

- Check the posture. Hand and feet which are not well placed, may result in lost control of the load and a sudden increase in physical stress.



- Does the task involve twisting the body/stooping?
These can increase stress on the lower back.
- Does the task involve excessive carrying distances?
This may result in reduced individual capability.
- Does the task involve excessive lifting or lowering distances?
Large distances are physically more demanding than small ones.

Individual

Individual capability means taking account of the fact that each individual varies according to:

- Physical differences between genders.
- Age/fitness.
- Experience.
- Health/pregnancy.
- Knowledge/training.

Load

Consideration should be given to:

- The weight, size, rigidity and resistance to movement of the load.
- Can the load be broken down into parts easier to handle ?
- Surface, structure of the load e.g. is it stable, easy to lift, have sharp edges.

Environment

Are there:

- Space constraints, which will prevent good posture?
- Uneven, slippery or unstable floors or work surfaces?
- Extremes of temperature, ventilation or wind speeds?
- Poor lighting conditions?

Do:

- Only carry out manual handling if you have received specific training and are aware of the requirements of the assessment.
- Where required, use mechanical aids (e.g. trolleys, lifting devices) to reduce the amount of manual handling required. These must be properly tested and certificated.
- Reduce the weight/size of the load wherever possible e.g. transfer tools required for a particular job to a smaller carrying bag, rather than transporting the entire tool kit.
- Get assistance with manual handling operations when needed.



- Plan the task before commencing reduce twisting and stooping, lifting to and from floor or shoulder height, or carrying long distances.
- Consider your capability: strength, injury, do you require a second person?
- Make the load easier to manage lighter, less bulky and consider avoidance of sharp edges & hot surfaces.
- Be aware of your working environment: consider the route, obstructions which could be removed, where ramps could be used. Changes may affect the task e.g. an operation which now needs to be done in very cold conditions may be affected by bulky clothing.
- Personal protective equipment such as gloves, safety shoes, hard hat should be worn dependant on the nature of the load and the working environment.

NOTE: Surface boxes are normally lifted by the owners / utility. However, the correct lifting keys or an appropriate mechanical lifting aid should be used when the boxes need to be lifted in emergency situations.

Manual Handling of Gas Meters

(Domestic – non-domestic)

Gas meters can be particularly difficult to move due to the weight and sometimes awkward centre of gravity.

Below are a few useful hints:

- Ensure route to vehicle has been identified and is clear from obstructions.
- When carrying any meter, ensure suitable and safe grip is applied.
- Ensure that there is adequate and sufficient room for safe storage on the vehicle.
- When installing meters ensure adequate working access is available, do not stretch at any time during the process. Meter locations, such as under stairs, into a meter box or at high levels should be given consideration.
- Some of these locations may require additional facilities, the on-site hazard assessment will identify the actual requirements. If this requires placing any meter on a pallet with a drop side to improve access and reduce the risk.
- A pre-site survey may be required prior to the work date to ensure adequate safety requirements are employed.

The weight of the meter should be known before lifting or movement is carried out. This information is available from the manufacturer. As a “rule of thumb” gas meters that weigh in excess of 25kg should be a two-person lift.

Rotary Meters

Due to the speciality of these meters, mechanical handling facilities must be made available at all locations.

The following table indicates the meter size, manufacturer, weight, dimensions and the recommendations for manual handling.

Mechanical Excavators



360 Degree Mini-Excavators

To operate mechanical excavators and 360-degree mini excavators, you must be competent and hold a current CITB (or equivalent) certificate.

Seat belts must be worn at all times when in use.

Anti-roll bars must be fitted to machines.

Pre-Use Checks

You must carry out and record the machine pre-use inspection which should include the following:

- Hydraulic oil level and leaks
- Engine oil level
- Water in radiator
- Battery electrolyte level
- Fuel
- Any signs of damage to hydraulic hoses, tracks or other components
- Check manufacturer's instructions are available to user.
- Check validity of maintenance
- Flashing amber beacon
- Functioning breakaway cable

Transportation

Before transporting on a trailer, you must check:

- The trailer is capable of carrying weight.
- That it has at least two corner jacks.
- That it allows mini excavator to rotate 180°.
- That it has a working jockey wheel.
- The ramp is not too steep – only ramps designed for use and fit for purpose for loading/unloading must be used.
- The excavator is securely strapped down to trailer before moving (at least 3 straps).
- The vehicle is capable of towing the trailer and the excavator.

Pre-Loading/Unloading

Before loading or unloading you must check:

- All corner jacks are down and locked during loading/unloading.
- Trailer is attached to vehicle and the handbrake applied.
- Wheel chocks will be required on inclined surfaces.

Loading

Whilst loading you must:

- Engage slewing lock prior to driving up the ramp.

- Outstretch boom/bucket to act as counterbalance.
- Face direction of travel with dozer in front
- During levelling retract the arm sufficiently to allow forward movement to prevent contact with vehicle.
- Lock bucket to either the retaining framework or the centre of the bucket platform on the 'A' frame.
- Ensure transient (all ratchet securing straps) are attached prior to transportation.

Unloading

Whilst unloading you must:

- Ensure all transient webbing is removed and bucket is released.
- Rotate excavator 180° to face direction of travel.
- Extend boom/bucket to the front but allowing clearance from the ramp and ground.
- Whilst on ramp retract boom/bucket to maintain clearance.

Use of Excavators

Incidents commonly occur during reversing and digging operations. If pedestrians, workers or other contractors are liable to approach temporary work areas, recognised robust barrier system suitable for streetworks need to be used to create and maintain a pedestrian exclusion area.

Plan work to include the appropriate use of competent banksmen to control third party risks and to assist the driver to accurately position the machine.

At sites where space is limited, e.g. while loading surplus material onto vehicles near the public highway, sufficient room and appropriate traffic management systems should be provided to allow excavators to operate safely.

You must:

- Keep people away from the areas of excavator operation by the provision of suitable barriers.
- Use a banksman in a safe position to direct the excavator's operation and any pedestrian movement.
- Ensure a clearance of over 0.5 metres is maintained between any part of the

machine, particularly the ballast weight, and the nearest obstruction (taking particular care when slewing).

- Use the equipment in accordance with manufacturer's instructions.
- Check clearances to avoid power lines, trees, scaffolding, etc.
- Identify buried plant and cables from plant and check with plant and cable locator prior to and during excavating. Markup with biodegradable paint spray.
- Use a Banksman when excavating near buried plant or in other hazardous areas such as overhead cables, etc.
- Ensure all spoil is stored clear of the excavation in the designated areas (min 300mm).
- Not use the excavator on ground sleeper than those stated in manufacturer's instructions.
- Always park with blade and bucket on floor, engine turned off, key removed and release any pressure in system by operating levers and lock up the machine.

Mobile Phones – Using when Driving



It's illegal to hold and use a phone, sat nav, tablet, or any device that can send or receive data, while driving or riding a motorcycle.

This means you must not use a device in your hand for any reason, whether online or offline.

The law still applies to you if you're:

- stopped at traffic lights.
- queuing in traffic.
- supervising a learner driver.
- driving a car that turns off the engine when you stop moving.
- holding and using a device that's offline or in-flight mode.

Drivers should make any phone calls before driving their vehicle and plan to make calls en-route whilst driving.

You must not phone anyone if you know they are driving, unless it is a gas emergency.

If you phone someone and they answer the call, but they are driving, then you must arrange to ring them back and end the call immediately if it is not a gas emergency to avoid lengthy conversations.

Using devices hands-free

You can use devices with hands-free access, as long as you do not hold them at any time during usage. Hands-free access means using, for example:

- a Bluetooth headset.
- voice command.
- a dashboard holder or mat.
- a windscreen mounts.
- a built-in sat nav.

Satellite Navigation Devices

Drivers must not enter new destination information into the navigation system when driving as this could cause a distraction and loss of concentration.

Drivers must only enter information into a navigation system when the vehicle is stationary.

Passengers are permitted to do this but must not distract the driver in any way.

Exceptions

- You can use a device held in your hand if:
- you need to call 999 or 112 in an emergency and it's unsafe or impractical to stop.
- you're safely parked.
- you're making a contactless payment in a vehicle that is not moving, for example at a drive-through restaurant.
- you're using the device to park your vehicle remotely .

The device must not block your view of the road and traffic ahead.

Staying in full control of your vehicle

You must stay in full control of your vehicle at all times. The police can stop you if they think you're not in control because you're distracted and you can be prosecuted.

Penalties

You can get 6 penalty points and a £200 fine if you hold and use a phone, sat nav, tablet, or any device that can send and receive data while driving or riding a motorcycle.

You'll also lose your licence if you passed your driving test in the last 2 years.

You can get 3 penalty points if you do not have a full view of the road and traffic ahead or proper control of the vehicle.

You can also be taken to court where you can:

- be banned from driving or riding
- get a maximum fine of £1,000 (£2,500 if you're driving a lorry or bus)

Mobile Traffic Lights



You may only install temporary traffic light systems if you are trained and competent. They must be of a type approved by the Department of Transport and installed in accordance with 'The use of vehicle actuated portable traffic signs.

You must ensure that:

- Manufacturer's/supplier's instructions are available on site and followed.
- All such equipment is inspected, maintained and certified as required by the manufacturer's instructions and records of inspection are kept.
- Where possible the power unit is positioned away from the traffic light heads to reduce risks from possible vehicular impact.
- On 'live gas' sites the power unit must be a minimum of 5 metres away from any gas source and should be positioned, taking into account wind direction and other possible gas sources.
- You hazard assess the area to ensure the security of the power unit to avoid theft and vandalism, etc. where applicable security fencing should be considered.

National Transmission System – Escapes

Introduction

The United Kingdom's National Transmission System (NTS) is the network of gas pipelines that supply gas to about forty power stations and large industrial users from natural gas terminals situated on the coast, and to gas distribution companies that supply commercial and domestic users.

NGN have a procedure to provide guidance on the management of an incident in accordance with until responsibility can be handed over to National Gas Transmission.

See NGN/PM/EM/76 'Management Procedure for Managing Gas Release Emergencies and Damage on the Above 7 bar Gas Transmission System'.

Identification of NTS Compounds

The mapping system should be consulted to establish if there is NTS pipework.

Assumptions may be misleading as NTS sites can be in a variety of sizes and contain varied equipment. Also, the security fence can range from a simple wooden post and rail, chain link fencing through to high security palisade fencing. Some examples are shown below.

Identification of NTS Pipelines

Sometimes there may not be any visible signs of NTS pipeline. Therefore, the mapping system should be consulted rather than assume there is not a pipeline in the area of a reported incident.

As soon as you believe an NTS asset may be involved you must contact Gas National Control Centre (GNCC) on **0800 614 043** immediately and request attendance of National Grid personnel as well as contact your normal emergency control room.

Noise

It is common for NTS equipment to produce some background process noise, however, it should not be assumed that all noise from NTS equipment is normal, if there are any doubts, or if the noise is deemed to be a nuisance, please contact GNCC.

NTS Incident Management

Hazards and Precautions Book

National Gas Transmission (NGT) will dispatch the nearest suitable person to attend the scene. In the intervening time the Distribution Network shall manage the incident using the Task Card attached, until responsibility for the incident is formally handed over to the NGT On-site Incident Controller.

Task Card for Managing Incident on the National Transmission System (NTS)

Assess:

Assess the scope and implications of the incident and establish the potential for escalation, the factors that should be assessed are:

- Has the pipeline been damaged?
- Has the pipeline failed?
- Is there a noise or white plume from a compound or pipeline?
- Is there a gas release?
- Is there a fire?
- Are there sources of ignition nearby?
- Will evacuation of individuals in surrounding area be required?
- Establish asset owner.

The immediate priority should be to safeguard life and property.

Inform

For National Gas NTS assets, notify Gas National Control Centre (GNCC) **0800 614 043** with the:

- Type of incident
 - Pipeline / assets involved.
 - Location
 - Instruct GNCC not to increase the pressure in the pipeline.
 - Extent of exclusion zone
 - Details of casualties
 - Attendance of Emergency Services
 - Any other relevant information
- Notify your manager and ask for support.

Instructions following suspected failure.

- Instruct individuals to withdraw to a safe distance from the damage or failure using the Maximum Hazard Range Chart, below.
- Provide advice to the Emergency Services on the exclusion zone, and likely consequence of the incident.

- Liaise with the Emergency Services on the safe evacuation of individuals in the vicinity.
- For un-ignited releases, instruct that ignition sources are removed from the exclusion zone, including transport routes.

NOTE: The task card guide is not exhaustive, and the incident should be managed in accordance with NGN/PM/EM/76.

Mobilise

If required, mobilise additional network staff to attend the incident scene to assist.

Organise

Establish an on-site incident management control point at twice the Maximum Thermal Hazard Range (see table below)

Monitor

Monitor the situation and notify the Emergency Services on any changes required to the exclusion zone.

Inform relevant personnel as appropriate.

Update NGT and IDN/RDN management team.

Keep GNCC updated on the incidents.

Record

Keep a log of the incident.

Time people/organisations are on site, details of the incident, people evacuated, records of conversations & information passed on, etc.

Handover

Fully brief the NGT Representative on arrival, and formally handover the management of the incident.

Inform the Emergency Services of the handover of responsibility.

Assistance

Provide assistance as required by the National Gas on-site Incident Co-ordinator.

Maximum Thermal Hazard Ranges for NTS Pipeline Events.

Event	Pipeline Dia (mm)	Max Thermal Hazard Range (Metres)	
		40-75 barg	75-85 barg
Hole up to 75mm (3")	All sizes	29	32
Hole up to 150mm (6")	All sizes	90	100
Rupture	168 (6")	140	151

Rupture	324 (12")	230	249
Rupture	457 (18")	290	312
Rupture	610 (24")	365	393
Rupture	762 (30")	455	482
Rupture	914 (36")	560	609
Rupture	1067 (42")	665	711
Rupture	1219 (48")	812	872 (use for 95bar)

NOTE: The distances above are based on distance an individual would be expected to safely run away from a release that ignites. The distance should be doubled for establishment of a control point.

Needles / Sharps



Needles and hypodermic syringes can be found anywhere, and may be visible or hidden, e.g. contained in other litter.

Beware of locations such as under banister rails on stairways, around lift buttons, valve pits, behind meters and around the perimeter of remote sites where sharps may be deliberately hidden or concealed. It is important during any operation that you do not put your hands in places that you have not visually checked first.

Any infectious agent can be transmitted by a needlestick injury, but the major blood borne pathogens are Hepatitis B virus, Hepatitis C and HIV.

If you find a needle or sharp object at work – inform your manager immediately.

You must assess whether it is essential to move the needle/sharp object.

If it is necessary for you to move the needle/sharp object, never touch it with bare hands – wear the gloves and use the tweezers supplied within a Sharps Kit.

Take extreme care when handling needles or sharps.

Carefully place the needle/sharp object into the sharps container and seal the box, place sealed container, tweezers/tongs into the yellow bag provided and seal the bag with the tape tags.

If you are pricked by a hypodermic needle or other sharp object which might be contaminated, immediately encourage the wound to bleed, and wash (without scrubbing) in running water and plenty of soap.

Do not suck the wound. Cover wound with a clean dressing and seek medical treatment immediately from a medical practitioner.

Disposal of Sharps Containers

Sharps containers are classified as clinical waste and disposed of by an appropriate waste management company.

Used sharps containers must be returned to the depot for correct disposal.

See Waste – Storage Requirements

Noise

Hearing damage is not reversible **IT STAYS WITH YOU FOR LIFE!!!**



All colleagues should take all reasonable steps to avoid exposure to harmful noise levels.

USE your hearing protection or LOSE your hearing capacity.

If noise is intrusive but normal conversation is possible, this is an indication that the noise level is approximately 80db(A) and you should wear NGN approved hearing protection. If you have to raise your voice for a colleague to hear what you are saying when you are standing 2 arms lengths away (2metres) the noise level is approximately 85db(A) and you must wear hearing protection to prevent damage.

Doubling your distance from a noisy piece of plant or equipment reduces your noise exposure by half. Halving the distance doubles your noise exposure and the potential to damage your ears.

Operational Noise

You must check that equipment has been maintained and noise suppression equipment such as muffs and silencers are in place.

You must take into consideration other site users and members of the public before commencing work which may constitute a nuisance.

Hazards and Precautions Book

- Wherever possible hoods/doors on plant and equipment should be kept shut.
- When plant and equipment is not in operational use, it should be turned off.
- You should report all noise complaints to your Line Manager.

Hearing Protection

- You must wear hearing protection in accordance with training, if required by the work activity, and in areas where hearing protection warning signs are in place.
- Keep hearing protection clean and maintained. If it is damaged report, it to your line manager.
- You should use hand signals in noisy areas if voice communication proves impossible.
- If hearing protection is not worn correctly, or is in poor condition, it can significantly reduce its efficiency to protect.
- If you enter a third-party premise where loud noise exists, ask for advice from the site manager and follow it. If you are concerned (apply the arm's length rule above), then wear the provided hearing protection.
- Colleagues regularly exposed to loud noise (>80db(A)) will be required to attend regular health surveillance.

Environmental Noise

Noise pollution is a displeasing human or machine created sound that can have a serious effect on health and the activity, or balance, of human or animal life.

A common form of noise pollution is from transportation, principally motor vehicles, machinery, generators and plant. Care should always be taken to ensure that noise is kept to a minimum whilst working.

Complaints from the public about noisy activities are received regularly. This noise could be deemed a Statutory Nuisance under Environmental Protection Act and make NGN liable for prosecution.

As with any hazard. Prevent the noise in the first place, can the generator be replaced by battery powered, e.g. Traffic lights. Other steps can include:

- Turn equipment off when not in use.

- Consider the use of acoustic barriers if working near a sensitive area, form a barrier between the noise and the affected area.
- If equipment is generating excess noise, inspect and maintain, it probably needs repair.
- Ensure blades are changed regularly on tools to avoid excess time, activity, and noise generated.

Occupational Health



NGN is committed to ensuring that colleague health and wellbeing is not adversely affected by work.

Occupational Health provides preventative measures in which to examine and monitor the relationship between work and health. This service is provided by the inhouse team who are supported by an external Physicians and Physiotherapy Service.

For more information on the services provided visit Occupational Health and Wellbeing Hub on MyNGN.

Wellbeing

Promoting wellness and ensuring wellbeing is a key focus for NGN. The aim is to help improve your health and wellbeing and to encourage all of our colleagues to choose a healthier lifestyle. For further information and guidance, further information on the Wellbeing support services available to all colleagues and for information on various health related topics including both physical and mental health please visit the Wellbeing Support/Support sections on the Occupational Health and Wellbeing Hub.

Outside

Working



When working outside you must take account of current and forecasted weather conditions.

Ensure you have suitable PPE available and wear correct PPE for the weather conditions and the work activity. In sunny weather remember to cover your exposed skin (including your head) and use sun block. The sun can be strong enough to burn you in less than twenty minutes. You should show any ulcers, raised areas or pigment changes on skin to your GP at the earliest opportunity.

If you are working in poor light, you must ensure that you have the approved lighting available where required.

Windy Conditions

When operating a Mobile Elevating Work Platform (MEWP) don't operate in wind speeds above the maximum which should be marked on the machine, usually 28mph .

Overhead Power Lines



Any work near electric distribution cables or overhead railway power lines must be carefully planned to avoid accidental contact.

The most common operations leading to contact with overhead lines are:

- Handling long scaffold tubes.
- Handling long metal roof sheets.
- Moving long ladders and tower scaffolds.
- Using cranes and other lifting plant with long booms.
- Raising the body or inclined container of tipper lorries.
- Use of vehicles with grabs.
- The use of mobile elevating work platforms (MEWPs).

All work with HIABs likely to lead to contact with the overhead line should be done in an area well clear of the line itself.

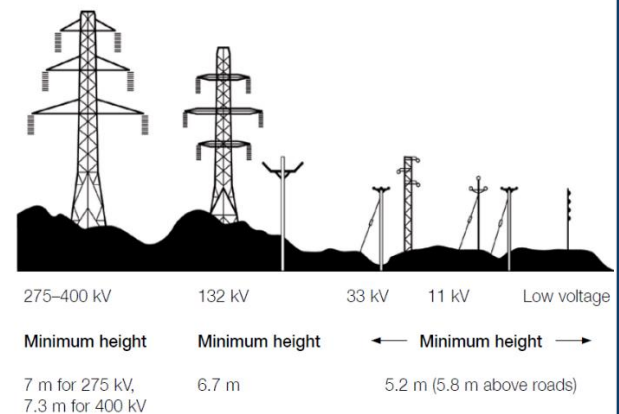
In some cases, it may be possible to alter the work to eliminate the risk, for example, by reducing the length of scaffold tubes, ladders or roof sheets to ensure that the line cannot be contacted accidentally.

As a rule, no vehicles, plant or equipment should be brought closer than:

- 15m of overhead lines suspended from steel towers or
- 9m of overhead lines supported on wooden poles.

In cases where closer approach is likely, it may be necessary to have the lines made dead or to erect barriers to prevent approach to them. If work is to take place close to overhead lines, detailed precautions should be discussed with the owner of the lines (any work next to any railway which is likely to encroach onto railway land should, in any case, be discussed with the railway operator before work begins)

For more details, see HSE's booklet 'Avoidance of Danger from overhead electric lines GS6' .



Minimum Distance from Overhead Power Lines

Permit to Work



You must not undertake the following activities without a specific permit to work that has been properly authorised.

- Demolition work.
- Entry into a confined space.
- Excavations where access / egress is by a ladder or identified by Risk Assessment.
- Hot work on live pipework or hazardous areas.
- Lifting operations over live plant.
- Pressure testing as determined by engineering procedures.
- Horizontal Directional Drilling (HDD).

Hazards and Precautions Book

- Work in known asphyxiating atmospheres.
- Work on contaminated land.
- Work on, or near, electrical systems.

Permits must be authorised, issued and controlled in accordance with the procedure for Safe Control of Operations – SCO1, SCO2, SCO3, SCO4, SCO5 and Electrical Safety Rules EL6 and note for guidance on Electricity at Work Regs EL7.

Polyethylene (PE) Pipe



Handling of Coils

- Individual coils of pipe not exceeding 63mm diameter not exceeding 100 metres in length, are generally capable of being manually handled on site. For larger diameters and lengths, mechanical handling must be employed.
- Coils must only be transported on suitably designed vehicles / trailers or within a trailer mounted coil dispenser. These trailers must have been inspected for condition and deemed fit for purpose by the responsible competent person. The internal tail must be secured to the trailer/dispenser using an approved security strap.
- A trained driver/plant operator must be nominated as the competent person for loading the vehicle or trailer.
- If craneage is to be used to manoeuvre a coil, then not less than three persons (including the lifting equipment operator) should be employed in the operation of loading the dispensing trailer.
- Dispensing must take place under the direction of a trained and competent person with a minimum of three persons when dispensing pipe of 90mm diameter and above, and a minimum of two persons for smaller diameters.
- Eye protection must be worn when coil banding is removed. Care should be exercised when dispensing coils – suitable towing heads must be used and the movement of the tail end of the pipe must always be controlled to prevent whiplash by use of mechanical restraints.
- To prevent damage to the pipe snips/secateurs should be used rather than a hacksaw.

TIP:

Only cut bands facing you on the outside of the coil. Do not cut bands from the side of the coil.

Also assess the weight and height of a loaded pipe coil trailer, your vehicles gross towing weight restriction and your competency to tow with a vehicle.

Pipe Diameter (mm)		Maximum Weight (kg/m)	50m Coil	100m Coil	150m Coil	500m Coil
16	11(7.4)	0.12	6.0	12.0	18.0	60.0
20	11(9)	0.15	7.5	15.0	22.5	75.0
25	11	0.19	9.5	19.0	28.5	95.0
32	11	0.31	15.5	31.0	46.5	155.0
40	11	0.48	24.0	48.0	72.0	240.0
50	11	0.74	37.0	74.0	111.0	370.0
55	11	0.90	45.0	90.0	135.0	450.0
63	11	1.16	58.0	116.0	174.0	580.0
63	13.6	1.0	50.0	100.0	150.0	500.0
75	11	1.62	81.0	162.0	243.0	810.0
75	13.6	1.40	70.0	140.0	210.0	700.0
90	11	2.35	117.50	235.0	352.5	1175.0
90	17.6	1.57	78.5	157.0	235.5	785.0
125	11	4.51	225.5	451.0	676.5	-
125	17.6	2.96	148.0	296.0	444.0	-
140	11	5.62	281.0	562.0	843.0	-
140	17.6	3.69	198.0	396.0	594.0	-
180	11	9.31	465.5	931.0	1396.5	-
180	17.6	6.31	315.5	631.0	946.5	-

Table of Weights of Coils

Pay particular attention to the route you will travel and take into account, and avoid, any potential obstruction such as low bridges, etc.

Ensure the height of the trailer and pipe being transported is known and that this is recorded in the vehicle. There must be a means of measuring the height of the load in the depot.

Pipe trailers will usually display the manufacturer's guidance on the restraining technique whilst loading, transporting and dispensing pipe from the trailer.

Prior to commencing any operation involving dispensing from a loaded pipe coil trailer, you must ensure that a suitable and sufficient risk assessment is carried out by a competent person.

Safety Considerations

Coiled pipe contains a considerable amount of stored energy which has the potential to cause injury if handled in an incorrect way.

To ensure a safe working environment during the installation of pipe greater than 32mm in coil form, coils should only be dispensed from a coil dispenser, supplied by a recognised manufacturer.

It is essential that care is taken when cutting the straps. Always ensure that the tail ends of coils are released in a restrained and controlled manner and never cut all of the retaining straps at one time, or in one operation. Only cut the bands one at a time as required for the dispensing operation.

The work area should be restricted to essential personnel only who should always wear a hard hat, gloves, safety shoes and eye protection when carrying out this type of operation.

After completion of the dispensing operation, it is important to ensure that the free tail-end of any part-used coil is 'secured' before transporting it from the site.

Drums

If there is a purpose-built dispenser to be loaded on a drum, all the required slinging arrangements must be carried out from base level. It is dangerous to climb the dispenser to arrange slinging. When the end of the coiled pipe on a drum is approached, the pipe should be restrained to prevent springing when it leaves the drum.

Straight Lengths

Mechanical lifting equipment should be considered when handling large diameter lengths. Bundle packs should be restrained when strapping is removed to prevent pipe rolling, and personnel should stand to the side of the bundle, away from the strapping and the path of any rolling pipe.

Pipe Diameter (mm)	SDR	Maximum weight (kg/m)	Maximum weight of 6 metre stick	Maximum weight of 12 metre stick
16	11(7.4)	0.12	0.72	1.44
20	11(9)	0.15	0.90	1.80
25	11	0.19	1.14	2.28
32	11	0.31	1.86	3.72
40	11	0.48	2.88	5.76
50	11	0.74	4.44	8.88
55	11	0.90	5.40	10.80
63	11	1.16	6.96	13.92
63	13.6	1.0	6.00	12.00
75	11	1.62	9.72	19.44
75	13.6	1.40	8.40	16.80
90	11	2.35	14.10	28.20
90	17.6	1.57	9.42	18.84
125	11	4.51	27.06	54.12
125	17.6	2.96	17.76	35.52
140	11	5.62	33.72	67.44
140	17.6	3.69	22.14	44.28
180	11	9.31	55.86	111.72
180	17.6	6.31	37.86	75.72
200	11	11.03	66.18	132.36
200	17.6	12.69	76.14	152.28
200	26	5.41	32.46	64.92
213	21	7.43	44.58	89.16
213	26	6.17	37.02	74.04
225	17.6	9.09	54.54	109.08

225	21	8.34	50.04	100.08
225	26	6.80	40.80	81.60
250	11	17.14	102.84	205.68
250	17.6	11.23	67.38	134.76
250	21	10.56	63.36	126.72
250	26	8.42	50.52	101.04
268	26	9.70	58.20	116.40
280	11	21.49	128.94	257.88
280	17.6	14.02	84.12	168.24
280	21	13.12	78.72	157.44
280	26	10.49	62.94	125.88
315	11	27.19	163.14	326.28
315	17.6	19.09	114.54	229.08
315	21	16.38	98.28	196.56
315	26	13.38	80.28	160.56
355	11	34.62	207.72	415.44
355	17.6	22.62	135.72	271.44
355	21	20.68	124.08	248.16
355	26	16.98	101.88	203.76
400	11	43.91	263.46	526.92
400	17.6	28.69	172.14	344.28
400	21	26.17	157.02	314.04
400	26	21.53	129.18	258.36
450	11	55.44	332.64	665.28
450	21	33.22	199.32	398.64
450	26	27.19	163.14	326.28
469	21	36.08	216.48	432.96
469	26	30.23	181.38	362.76
500	11	68.55	411.30	822.60
500	17.6	56.02	336.12	672.24
500	21	40.96	254.76	491.52
500	26	33.52	201.12	402.24
560	11	85.83	514.98	1029.96
560	21	51.42	308.52	617.04
560	26	42.10	252.60	505.20
630	11	108.76	652.56	1305.12
630	21	64.96	389.76	779.52

630	26	53.15	318.90	637.80
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Note: PE 80 pipes will be marginally lighter than indicated for PE 100.

Weights of straight PE100 pipe lengths

Storage (Operational Depots)

- If you are responsible for the delivery and/or handling of coiled PE pipe above 90mm to an operational depot you

must ensure that the packaging, pipe, and any supplied fittings are:

- Stored on firm level ground with arrangements for safe access for vehicles and cranes.
- Not stored more than 2 coils high.
- Immediately secured or restrained to prevent accidental movement.
- Not stored in the proximity of designated emergency exits.
- Supplied with secured strapping.
- Not stacked more than 2.5 metres.
- Stored vertically and secured to purpose-built storage frames if available.
- Damaged, as stacks should only be broken at time of issue.
- Pipe ends are sealed to prevent contamination.

Storage (Operational Sites)

When storing PE pipes and fittings on an operational or unmanned site you must:

- Store the pipe on firm level ground and arrange safe access for vehicles and cranes.
- Erect barricades, warning signs and lamps to protect members of the public particularly children in either the highway or pedestrian footpath.
- Secure or restrain the pipe to prevent accidental movement.
- Store away from the proximity of emergency exits, excavations and third-party interference.
- Use protective caps wherever possible to prevent ingress of foreign material into the pipe.

You must not store individual:

- Coils more than two coils high.
- Straight pipes up to 125mm in diameter more than eight pipes high.
- Straight pipes greater than 125mm in diameter more than four pipes high.

Pipe Movement

- Make sure you are in a safe area when pipes are being pressure tested as they are liable to move suddenly due to stresses from the test.
- Be aware that severe sudden displacement of the pipe can occur when being cut due to in-built stresses.
- You must ensure any anchorages and support detailed in the procedure are properly in place before commencing pressure tests or cut outs.

Pipe Stringing

When carrying out pipe stringing you must ensure the pipe is:

- Placed to minimise obstruction / interference to traffic and personnel.
- Placed so as not to affect trench stability.
- Wedged/supported to prevent accidental movement.
- Secured in order to prevent it moving / swinging when being moved.
- Adequately barricaded off to protect members of the public.
- Pipe ends should be temporarily capped using means which totally encloses the ends e.g. by a lipped cap, to avoid ingress of foreign bodies.

For further guidance refer to IGEM/G/8 Handling, Transport & Storage of PE Pipe and Fittings.

See NGN/PR/ML/4

Personal Protective Equipment (PPE)



Introduction

The following information provides details on PPE currently available within NGN.

The details will assist you to identify what type of PPE is available and where you find further information for it.

Just as importantly, it will detail how to maintain the PPE in order to ensure it continues to provide the protection it was designed for.

Reference should also be made to the PPE procedure – NGN/PM/EHS/11

Why you need to wear PPE

PPE is available to ALL colleagues.

It is important that you use the correct PPE whenever required by procedures, however, it is not a replacement for proper engineering controls and safe systems of work.

The use of PPE must always be considered to be a 'last resort' to control the risk adequately.

Roles and Responsibilities

Both managers and operational colleagues have responsibilities with regards to PPE.

Manager's Responsibilities:

- PPE is used as a last resort, after other methods of risk control have been considered, as per risk assessments.
- Training in the use and maintenance of PPE will be provided.
- Only suitable PPE as approved / supplied by NGN is available and worn for work.
- PPE issued is in good condition and is fit for the individual's use.
- You must ensure individuals know when to wear the PPE, at appropriate times on work activities and the reasons for wearing it.
- PPE must be stored correctly; storage facilities must be made available.
- For non-standard activities, a risk assessment will determine the PPE required.
- PPE is regularly inspected where required.

Operational Colleague's Responsibilities:

- Use the PPE in accordance with NGN and manufacturer's instructions.
- Wear the PPE when required to do so by NGN procedures and instructions, or when requested by manager when site conditions dictate the use.
- Store the PPE in a suitable manner and location reducing the possibility of damage, always ensure it is readily available for use.
- Inspect PPE before use. Carry out regular visual inspections.
- Report any loss or defect to your manager and ensure an immediate replacement is obtained.
- NEVER modify an item of PPE

How to obtain PPE

PPE must be obtained via a direct request to your line manager.

All PPE should be purchased through the mandatory NGN PPE contracts that are currently in place.

NOTE: where hazards dictate the need for PPE not covered by the above arrangements, then advice should be obtained from your line manager or the EHS Department.

Inspection, Care and Maintenance of PPE

- Before using any PPE, a visual inspection should be carried out to identify any deterioration, damage, etc.
- All items should be kept clean, and where necessary/specified, cleaning instructions from manufacturer's must be adhered to.
- Always store PPE safely and neatly away from direct sunlight and sources of heat, abrasion or other possible causes of damage
- Ensure that wet clothing is placed in a suitable drying area before re-use.

Current PPE Range

Details of current range and specification of PPE available are provided at the end of this booklet and are displayed on the PPE Portal on SAP.

Pollution

Prevention

For Noise Pollution, see Noise.



NGN is committed to protecting the environment and making a positive contribution where possible.

We should consider the environment aspects of everything we do. You can help NGN achieve the five environment strategy commitments (see Environment section) by following the guidance below:

Air

Pollution is the human introduction into the atmosphere of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms or causes damage to the environment. The principal air pollution that results from our works is emission from the vehicles and mechanical equipment as well as dust arising from site in dry conditions. As well as having a health effect on people, wildlife and habitats the

carbon dioxide (CO₂) emitted has a serious effect on the climate.

For further details see Emissions to Air

Water

Water pollution is the contamination of water bodies such as rivers, groundwater caused by human activities, which can be harmful to organisms and plants which live in these water bodies.

These bodies of water can be polluted directly, or via the drainage system in urban areas. Examples of such pollutants are silt, fuel/oil, rubbish and chemicals.

As most of NGN's operational works carried out are in urban areas, the most common pollution risk is from pollution entering bodies of water via the drains.

In recognition of these potential impacts, NGN's People and Planet Strategy commits us to 'Manage our land to benefit the environment. You can help NGN achieve this commitment by doing the following, whenever possible, to reduce the chances of polluting the water by:

- Never parking plant and vehicles over gully grates or drain entrances.
- Always Storing liquids on drip trays, well away from drains or bodies of water
- Keeping all chemicals, especially hazardous or dangerous substances in a sealed, secure containers well away from drains and at least 10m (30ft) from bodies of water, including refueling.
- Storing spoil in a location where it cannot wash into the drains or bodies of water.
- Keeping spoil covered to prevent rain. washing it into the drains or bodies of water.
- Using sandbags to divert water flow away from the gully grates or drain entrances.
- Pumping of silty water via sediment filter socks (green rhino or similar) or onto grass verges (permission must be gained from the landowner first).
- Ensuring you have adequate spill kits on site.
- Using funnels and plant nappies during refueling.

Working within 8m of Waters (including contaminated water)

(or within 16m of a tidal river)

Even the most apparently insignificant body of water may be an important habitat for flora and fauna. As such, the following must be done if works are planned to commence within 8 metres of a river, lake, pond, stream, canal or drainage ditch.

Prior to works commencing – The EHS team and your manager must be contacted as soon as it is identified that the works will be within 8m of water.

Flood Defences

Flood defences can be several hundred metres away from a main watercourse, or they can be in water. If any works are needed to be completed near, in or under a suspected flood defence contact Environmental personnel for advice, this may require a Permit from the Environment Agency. These can be raised mounds of earth protecting communities, these can be concrete structures, they can be reinforced glass walls, these can be gates. They are designed and maintained to meet standards, so working with the regulator is essential to protect communities and the environment.



For emergency works – The Environment Agency (0800 80 70 60) must be immediately notified (24/7) of all works within 8m of a main river watercourse, or 16m on a tidal river, or flood defences, or within a flood storage area. Main rivers and flood defences can be identified here using the Government Flood map for planning service:

Working within 10m of Water (including contaminated water)

Even the most apparently insignificant body of water may be an important habitat for flora and fauna. As such, the following must be done if

works are planned to commence within 10 metres of a river, lake, pond, stream, canal or drainage ditch.

Prior to works commencing – The EHS team and your manager must be contacted as soon as it is identified that the works will be within 10m of water.

For emergency works – The Environment Agency (0800 807 060) must be immediately notified (24/7) of all works within 8m of a main river watercourse or flood defences, or within a flood storage area. Main rivers and flood defences can be identified here:

<https://flood-map-for-planning-service.gov.uk/water>

For planned works – permits/consents may need to be sought from the Environment Agency, local authority, internal drainage board, The Canal and River Trust, or local water authority, which can take several months to attain authorisation.

Contact the EHS team as early as possible for support in determining the need for permits / consents and application support.

For further details on permissions for working within 8m of rivers, see Environment – Working Near Rivers section.

When on site:

- Carry out an environmental risk assessment or add environmental hazards to your risk assessment.
- Cover and contain spoil to prevent sediments entering the water e.g. by covering with plastic sheeting and providing sandbag bunding.
- Do not allow waste to accumulate on site – remove it as soon as practicable.
- Minimise the use of liquids on site – refuel plant and equipment prior to arrival on site.
- Materials & equipment should be stored as far from the watercourse as possible (further than 8m).
- Store all liquids on drip trays / spill decks, use funnels to prevent spillage and ensure that full spill kits are readily available.
- Never leave hazardous substances unattended
- Replace any vegetation that has been affected by the works.
- Report any incidents to the Environment Team ASAP.

When working within close proximity of watercourses, awareness of potential for flooding should be maintained, especially when heavy rainfall is forecast. The Met Office issue alerts which can be signed up to, the Environment Agency have a Flood Alert and Flood Warning system that can also be subscribed to.

Spillage Control

The guide below details what action should be taken should you have a spillage whilst at work. However, prevention is better than cure and by following the instructions in **Pollution Prevention – Water** in this book, and in the associated reference points, the chance of having a spillage incident is minimal.

If hazardous substance enters into the drains or a body of water (including Canals) and cannot be contained or cleaned locally, you must notify your line manager, who will contact the EHS Team and report to the Environment Agency.

Environment Agency Emergency Hotline 0800 80 70 60.

Pregnant Parents and Returning to Work

The law requires employers to undertake specific risk assessments for colleagues who are pregnant, colleagues who have given birth within the last 6 months, and those who are breast/chest feeding when returning to work.

You should inform your manager in writing as soon as is possible if you fall into one of the above categories, so that they can arrange for the appropriate risk assessment and take any necessary action to remove you from any significant hazards / risks.

There are some jobs that are inadvisable for colleagues in the above circumstances, these will include:

- Manual Handling.
- Work in extremes of temperature (hot & cold).
- Work with specific hazardous substances.
- Vibration/noise/radiation.
- Lone working.

- Unusually stressful work.

It may be necessary to undertake more than one risk assessment to ensure all risks are captured as colleagues within the above categories move throughout the stages of pregnancy and new parent returning to work.

More information can be found within the HR Policies myNGN - Policies & Procedures - HR View or via the Safety Hub Risk Assessment

Pressurised Plant and

Pressure Testing



When working with pressurised plant or pressure testing, you must ensure that:

- A risk assessment is carried out before any work on pressurised systems is carried out.
- Equipment is checked prior to use and if subject to programmed maintenance, and inspection certificates held on site or made available.
- A safety zone to protect against any pressure release is clearly marked . Warnings of hazards associated with energy stored within a pipe or vessel have been given to all personnel on site.
- Notices warning that pressure testing is in progress are prominently displayed where the main is exposed and accessible to the public.
- Whilst pressure is being raised no unauthorised person shall enter the test area or interfere with the pipework.
- Where test pressure exceeds 350 mbar, no person should enter any excavation in which mechanical fittings, which rely on frictional resistance to achieve anchorage, have been installed.
- Checks to confirm de-pressurisation are made before dismantling

Components, breaking joints, removing plugs / inspection covers, filter doors, governor parts.

- The trench is backfilled to hold the pipes in position.
- Cap ends and fittings which have flexible joints are firmly anchored.

A PTW must be issued for pressure tests above MP (change to be made to SCO Procedures on completion of IGEM/GL/6 Standard) and potentially MP test on completion of a risk assessment.

Purging

Any purging must be carried out in accordance with written, approved routine or non-routine procedure, or Permit to Work by a competent person.

The risks from purging operations can include:

- Asphyxiation from inert gases
- Fire and explosion (including pyrophoric dust)
- Entry into confined space
- Presence of toxic gases or vapours
- Atmospheric pollution
- Cryogenic burns

To ensure the safety of the public during purging you must:

- Position purge pipe vent away from public access area wherever possible.
- Position 'No Smoking' signs at all pedestrian approaches to the purge vent area.
- Not leave the vent point unattended during purging process.

To reduce emissions to the environment you must ensure that any purge is not left emitting natural gas to atmosphere longer than is necessary, as this contributes to global warming.

See ICE Sheets 27b and 29.



Rail Crossings

Where it is planned to lay, replace or work on a gas pipe across a railway line, the owners of

the railway line must be consulted at an early stage. They will require adequate notice, (minimum of 3 months but may be much longer) of the proposed work programme and detailed drawings of the work.

The railway authorities may stipulate the main has to be laid using techniques such as auger or impact moling, which will involve the use of specialist equipment and specialist safety precautions observed.

Extreme care must be taken to avoid stationary traffic tailing back across a railway level crossing when street works or road works are being carried out at, or near, the crossing.

Particular attention must be paid to situations where works, even though they may be a considerable distance from the crossing, may cause traffic to tail back over the crossing as a result of longer traffic delays.

Road traffic **must NEVER** be stopped on a level crossing.

Your supervisor must contact the railway owner when works are to take place at, or near, a level crossing, or where traffic queues could affect a level crossing.

Under no circumstances should portable traffic signals be used at works which straddle a railway level crossing, not to control road traffic within 50 metres of a level crossing equipped with twin red light traffic signals.

Your supervisor must contact the railway owner when works are to take place at, or near, a level crossing, or where traffic queues could affect a level crossing.

Security



Security at Sites

Colleagues should be conscious of security issues when at work. Always carry your ID card and display it when required. Ensure the site access is secure at all times and only allow authorised personnel on site.

Please report anything or anyone suspicious.

If you have any visitors, ensure they sign in & out as per local procedures. Remember, as the host, you are responsible for visitors on site.

You must also log on and off site with NGN System Control.

Gas Facilities

When you arrive to carry out work you must:

- Carry out site security checks as required by the current security level.

When you leave you must:

- Ensure any tools and equipment are securely locked away.
- Ensure all chemicals, substances, flammables, etc are stored in suitable containers and secured.
- Ensure all excavations, pits, ducts etc are either covered or protected by barriers and signs.
- Not leave plant keys on site

Physical or Verbal Violence

You should always attempt to avoid any confrontational situations, premises or areas where you judge your personal safety to be at risk, by withdrawing immediately and consulting with your supervisor / line manager.

When working in an identified / suspected unsafe area, premises or site (including a company site) you must:

- As a company key holder, request a police presence before entering the premises / unmanned site alone due to the possibility of unauthorised persons being discovered.
- Follow local procedures for identified 2-man areas and arrange check-in calls with dispatch where necessary.
- Park your vehicle in a well-lit location and hide all valuables out of sight.
- Lock all doors and set the alarm (if fitted) when leaving the vehicle unattended.
- Remove any expensive equipment, laptops etc. which cannot be safely secured.

**NO TOOLS OR EQUIPMENT
ARE STORED IN THIS
VEHICLE OVERNIGHT**

- Remove any sat-nav including the holder.
- Consider keeping vehicle doors locked when travelling between jobs in high-risk areas.

Be mindful of your own safety and do not attempt to challenge or stop any dangerous situation e.g. attempted theft from a vehicle. In such circumstances contact your supervisor / line manager. Where appropriate the police may also need to be notified (consult your line manager for further advice)

If you have been involved either directly or indirectly in a violent incident and need extra support, contact your HR department for confidential support and advice, or use the EAP service (0800 030 4302).

Site Emergencies

When working on or visiting any site you must be aware of the emergency arrangements for the site such as:

- Fire alarms.
- Location of first aid kit.
- First Aiders.
- Location of rescue / resuscitation kit.
- Comply with local requirements.
- Ensure all personnel on site are informed of the emergency arrangements, fire exits and local hazards.
- Record the induction given.

Prior to commencement of work it may be necessary to inform the emergency services of the job location and type of work.

Slips, Trips and Falls



Slips, trips and falls account for nearly half of all lost time injuries.

To avoid slips, trips and falls you should always take the following precautions:

- Be aware of the ground conditions underfoot and wherever possible, you should avoid walking on uneven ground.

- You should always wear protective footwear suitable for the ground conditions.
- You should keep your work area, or site, tidy.
- Do not leave tools or other obstructions in walkways.
- If you have any trailing cables or hoses, make sure they don't create a tripping hazard by protecting / ramping them.
- When using steps and stairs, you must ensure your footwear is clean.
- You must check any access equipment such as steps, prior to use for wear, firm grip and not slippery, lighting and congestion levels.

Cellars:

When you are required to access cellars, extra care should be taken.

Typical additional hazards you may encounter are:

- Debris on the floor
- Trailing cables and pipes
- Low beams
- Congested storage
- Low light levels

End User's Premises

When you are working alongside members of the public, or inside their property, you must tell the affected parties of the hazards which could affect them, and the actions required to reduce the risks.

Flat Back Vehicles

A fall from height is the single most common cause of injury from flat back vehicles. This is often due to a person's momentary lapse of concentration resulting in a lack of awareness of their position of the vehicle.

ALWAYS BE AWARE OF YOUR POSITION ON THE VEHICLE

You should take the following additional precautions to prevent slips, trips and falls from flat back vehicles:

- Before you access the trailer, inspect the bed for slipping hazards caused by rain, snow and ice.

- You should access the trailer or vehicle load bed using steps or a loading gantry. Where this is not possible and there is no built-in access to the vehicle, you should climb up via the front and around the headboard. Do not access via the sidebars.
- You must NEVER jump down from a vehicle.
- When you are on the deck of the vehicle, check that it is suitable to be walked upon and that no holes have been hidden by material as it was placed on the vehicle.
- Check for debris which could cause a hazard such as old dunnage, metal bandings or other such loose material.
- When you are using loading bays be aware of any gaps between the side of the vehicle and the higher level of the bay
- You must take extreme care when moving around loads which are unsecured – do not use such loads as hand holds when accessing the vehicle.
- Take care when placing loads to ensure maximum room to manoeuvre on trailer beds.
- Ensure there is no protruding banding or strapping on loads to be placed on vehicle.
- Ensure that all persons involved in the loading of vehicles are wearing appropriate PPE i.e. hard hats, gloves, hi-vis, protective footwear and eye protection where necessary.

Fences and Boundary Walls

You should use access gates where provided to avoid hazards from crossing or climbing fences, hedges and/or boundary walls.

Governor and Plant Maintenance

- You must always use suitable access equipment that is subject to appropriate inspection / maintenance. Remember that ladders and platforms can become slippery due to spills, and you should clean them regularly.
- Always use the designated areas for material / equipment storage.
- Consideration should be given to providing anti-slip surfacing on access platforms etc.
- Vegetation should be cleared around access routes and kiosk doors.

- You should ensure that any excavations have signing, lighting and barriers as required by NRWSA where appropriate, and you should monitor and maintain them throughout the period they are in place.
- Take care to avoid impulse pipelines.
- Gloves and slip resistant footwear should be worn where appropriate.

Operational Sites

You should store excavated material and equipment safely away from trench edges, pedestrian walkways and gullies in designated areas.

You must ensure that signing, lighting and barriers are correctly positioned as required under NRSWA where appropriate. You must monitor and maintain them throughout the period they are in place.

Clear any access routes of vegetation.

Vehicles

Keep your vehicle steps free from mud etc.

Clear mud, etc from your footwear before entering the vehicle.

When you are getting in/out of vehicles do not jump – check environment and ground conditions for safety i.e.:

- Uneven holes
- Potholes
- Ice and snow.

Ensure you maintain a free walkway in rear of vehicle whenever possible and an area kept clear at the entrance for safe access / egress.

If it is necessary for you to leave a trailer connected to the vehicle then be aware of:

- The hitch connection
- Trailing cables

Restricted access / egress to vehicle

When you are getting in/out of vehicles avoid carrying tools and equipment, if necessary, place them on the floor until you have accessed or egressed the vehicle safely

Hazards and Precautions Book

Ensure any liquids are stored on spill trays to prevent slips from any leakage.

Familiarise yourself with access / egress arrangements on new or unfamiliar vehicles.

Steel Gas Service Pipes



Prior to commencing work, any exposed metalwork in the work area must be checked for the presence of AC voltage. **See the electricity Section for voltstick.**

When excavating on potentially corroded steel gas service pipes you should take the same precautions as when working on uncontrolled gas escapes.

Only trained ELR operatives are allowed to work on uncontrolled escapes. Any uncontrolled gas escapes should be reported immediately via the emergency number 0800 111 999.

ECV change and live/dead check.

If you are required to work on existing steel gas services with below ground entries, in particular, the changing of an emergency control valve, or preparatory excavation work for service replacement.

LEL checks shall be made, both inside and outside of the property, either on completion of the work or before you leave site, to ensure that no leakage has been caused.

Ensure that the pipe on which the meter control valve is to be replaced, is adequately secured and that no movement happens as a result of our operation.

Mark the pipe with chalk to aid check for any visible movement.

Where work on steel gas pipe needs to be undertaken, due regard shall be applied to the criteria listed in **NGN/PM/REP2 Distribution pipe replacement and management.**

See NGN SL1 Excavations

Streetworks



Training and Competence

At least one person on site at all times to have a valid NRSWA card.

Only appropriately trained and competent operatives, supervisors, managers or other competent persons should be engaged in the assessment, design, setting up, maintaining and removing of signing, lighting, guarding and temporary traffic control.

You must ensure that street works remain safe at all times, when work is being carried out and when sites are unattended.

This includes the requirement to ensure the safety of the public including those with impaired vision/hearing, disabled, young children and the elderly.

Planning

When carrying out streetworks, consider the following:

- Increased pedestrian traffic from the sites' proximity to schools, cinemas, shopping area and sport stadiums, etc.
- Nature and condition of the public area adjacent to, or connected to the site e.g. age of children at school (primary, nursery, etc)
- Potential for injury from severe or adverse weather conditions e.g. fog, mist, ice, etc
- Possibility of vandalism or malicious acts, particularly in areas where it is already known to be a problem.
- The use of signing, lighting, guarding and properly designed footway boards and road plates

Check the site daily for tidiness & safety. Take photos of this and record it on the Safety/Control Hub.

Look at what might change on site.

Estimate how long the works may be in place, then think about how any of the above issues might change within that time, e.g.

- rush-hour traffic flows.
- school run parking.
- pub/club licensing hours.
- match days at sports grounds.
- one-off events, concerts etc.
- street lighting levels.
- weather and surface conditions; and

deliveries to the site.

Barriers



Only NGN approved barriers to be used. When erecting or dismantling barriers in conjunction with carrying out any type of streetwork activity. Take the following precautions to avoid injury to yourself, other employees and members of the public.

- Ensure barriers being erected or those being dismantled, are stored so as not to cause an immediate obstruction to members of the public.
- Where conditions on site require a more substantial barrier system than the standard NRSWA barriers, e.g. a deep excavation, Heras type fencing should be used. Crowd control type barriers must not be used for guarding excavations.

There are a number of additional items of equipment that can be used to assist in ensuring that barriers remain upright and secure in high winds : e.g. expanding spacer bars for the top of barriers, additional weighted feet, interlocking systems etc.

- Before erecting/dismantling barriers you must ensure you are wearing the correct PPE.
- Check the barriers and bases are compatible and have the correct fixings. If in doubt, do not attempt to erect the barriers.
- Do not use excessive force or unsuitable tools or equipment when attempting to erect/dismantle barriers.
- To ensure barriers retain good visibility, check that they remain free from dirt and mud.

- Remove damaged equipment from circulation pending repair or disposal.
- Traffic for work on public highways and footpaths – all personnel must be NRSWA accredited.
- Reference must be made to 'Safety at Streetworks and Road Works' ACOP.
- Before commencing work, assess traffic control measures that are necessary.
- Consult the highway authority before removing, or obscuring, permanent traffic signs.
- Do not restrict emergency exits and access routes unless subject to prior agreement.

Ensure that protective cones, barriers, signs and lighting (including pedestrian walkways if required) are in place before work commences.

A designated person is required to ensure signs remain in place and are unobstructed and clean.

Before leaving site, ensure signs and barriers are in place and responsibility for monitoring has been agreed.

High Visibility Clothing



You must wear Hi-Vis PPE at all streetworks, which includes roads, footpaths, verges, etc. around the full perimeter of the works.

- Class 2 Jackets with sleeves must be worn on roads with a speed limit of 40mph and above.
- The minimum requirement is to wear the Hi-visibility bibs over existing workwear on all other roads to ensure the safety and protection of the operator.
- When there is poor visibility or adverse weather conditions, wear the full jacket with sleeves when working in proximity to complex junctions, poor visibility road junctions / streets, heavy traffic, country

lanes, etc. Consider external lighting to illuminate the site.

WARNING: Alternative PPE purchased from stockists outside of the company agreement, may not meet the required standards of PPE.

Protection of the Public

When working in, or near, an excavation, the following precautions must be taken to protect members of the public and NGN colleagues from slips, trips and falls.

- A suitable barrier system shall be used, where necessary, to prevent unauthorised access. For street and roadworks excavations, the barrier system specification and positioning must comply with the NRSWA and signing, lighting and barriers must comply with Field Procedure D4 'Safety at Streetworks and Roadworks'.
- Barriers should be placed so as to leave a minimum space of 1m between the edge of the excavation and the barrier to stop people falling through the barrier directly into the excavation.
- Excavations up to 2m must have additional protection and be fenced off.
- Excavations that are greater than 2 metres deep, must be fenced off so as to prevent unauthorised access, usually comprising a security fence with guard and intermediary rails and toe boards.
- When necessary, to avoid jumping or stepping over an excavation, an access way of at least 600mm width, with edge protection, must be provided. The need to cross trenches can be reduced by limiting the length of the trench left open.
- Cones, signs, lamps, safety temporary footways, or pedestrian routes, information boards and safety zones shall be used where necessary to comply with the NRSWA.
- All material spoil should be kept inside the fenced off area and at least 300mm from the side of the excavation but this may need to be increased following a risk assessment.

- Consideration should be given to hazards resulting from slippery surfaces, excavated materials, stored materials e.g. tools and equipment, trailing hoses or cables, temporary pipework and damage to the permanent surface.

Continual checks should be made to ensure:

- Safety zones are in place.
- Fencing is secure.
- Cones, signs, lamps and information boards are in place and clean.
- Temporary pedestrian routes must be clearly signed, secure and unobstructed.

When the site is left unattended the following precautions must be followed to protect members of the public from slips, trips and falls. Prior to leaving site:

- If the work within an excavation is complete, arrangements should be made to backfill the excavation to an interim or permanent standard, thus enabling the site to be opened to traffic at the earliest possible opportunity.

Should it not be possible to backfill to either an interim or permanent standard, and road plates and/or footpath covers are not used because pedestrian access is not required, then, as a minimum, any sharp objects including bolts should be either removed or suitably covered to prevent injury.

If the excavation cannot be backfilled or covered, then an assessment of the area where the excavation is sited should be made, taking into consideration the following factors:



- Is the street or road subject to large volumes of pedestrians or traffic?
- Are there schools, cinemas, theatres, bus or train stations, shopping areas, sports

stadiums, pubs, clubs or other places where the public assemble nearby?

- Is the area subject to vandalism?
- Are there severe weather conditions such as heavy rain, high winds, tidal water either existing, or forecast?
- Could the excavation flood with water such that drowning may occur?
- The possibility that the area may be used by disabled people and/or children playing.

If conditions described above exist, then the excavation should be backfilled as soon as reasonably practicable and, in the meantime, barricaded off. In circumstances where there is increased likelihood of someone either maliciously or accidentally breaching the barrier system, then arrangements should be made to backfill as soon as possible, in the meantime security fencing and covers should be used.

IF YOU ARE IN ANY DOUBT OVER THE PRECAUTIONS TO BE APPLIED, THEN YOU SHOULD CONSULT WITH YOUR LINE MANAGER. WHERE THE EXCAVATION IS TO BE LEFT UNATTENDED, AN ASSESSMENT SHOULD DETERMINE THE FREQUENCY OF INSPECTION. GENERALLY, AN EXCAVATION MUST BE CHECKED AT THE BEGINNING OF EVERY SHIFT.

In any event, the time the excavation is left open should be kept to a minimum and the excavation backfilled as soon as is reasonably practicable.

On leaving site after full reinstatement of any excavation work, the following precautions must be taken to further protect members of the public from the possibility of slips, trips and falls.

Ensure the immediate site is free from upward protruding objects which may cause injury. Where applicable, this includes checking that any paving stones have been replaced evenly.

Materials such as loose spoil scattered around the site should be completely cleared away.

All plant, tools and equipment used during the excavation work should be removed from site

at the time of departure. Wherever possible, this should include the immediate removal of any signing, lighting and guarding used during the excavation work.

Any signs, lighting and guarding that has to be left for removal later must be stored so as not to cause any possible obstruction to members of the public. These items should then be stored securely, particularly in areas used by disabled people and/or children playing. In all cases of completed excavation works, arrangements should be made to leave the site safe and tidy and remove all items either on or immediately after departure.

Storage Areas



All permanent and temporary storage areas should be suitably marked and signed to indicate their use and kept secure to prevent unauthorised access.

Aggregates and Spoil

- Regularly inspect and maintain drainage and silt traps close to storage area.
- Ensure all materials are contained within their storage boundaries i.e. 3 sided bays or in the case of spoil, in skips.
- Where appropriate, loose materials should be compacted and/ or covered to prevent dust or leachate, leaving the storage area.
- Segregate by waste material type to aid recycling.

Pipes and Fittings

Where it is necessary to store pipes and fittings you must ensure:

The location has firm level ground with suitable safe access for vehicles and cranes.

They are secured or restrained to prevent accidental movement.

Consideration is given to the proximity of emergency exits, excavations and third-party interference (particularly children).

Hazards and Precautions Book

Where they are stored on the public highway, barricades must be erected, and warning signs and lamps positioned.

Coils of pips and straight ends should have caps fitted or taped end stop prevent ingress of contamination.

Steel Pipes & Fittings

Pipes should not normally be stored more than 2 metres high.

Racking

You should only use racking for the purpose it was designed and comply with any notice identifying maximum load capacity together with any necessary specified load configuration.

You must not alter racking without first consulting the manufacturer.

Safe working loads must be displayed on the racking .

You must keep walk/gangways clear and clean. If you identify any faults or defects with racking, you must report them immediately to your line manager.

When storing items ensure you:

- Keep the heaviest materials at waist level.
- Make safe any materials which are stored on racking at height where they could cause injury if knocked off accidentally.
- Make sure trolleys and roll on cages are loaded correctly and not over filled.

Containers used for Storage

All containers should be inspected on a regular basis to ensure they are fit for purpose:

- Door hinges, locks and locking mechanism should be regularly oiled.
- Floors should be checked for damage.
- Containers should be watertight.
- Lighting / heating should be checked on a regular basis and kept in working order.
- Survey Work (Pipeline)
- Trailing Wires & Cables

If you are undertaking survey work you must identify the impact the work will have on livestock, members of the public and any others who may be affected.

When undertaking the work, you must:

- Consider alternative survey options where it is not possible to attend wires and cables which cross roadways and footpaths.
- Use a traffic cable cover at road/track crossings.
- Erect warning signs.
- Peg the wire to the ground at fences and hedges.

Tetanus



Tetanus is a serious, life-threatening condition caused by bacteria getting into a wound. It's rare in the UK because the tetanus vaccine has been part of the routine vaccine schedule for many years. Always keep cuts/grazes covered with a waterproof dressing.

There is a risk of tetanus if soil or manure containing bacteria gets into a wound, such as a bite, burn or scratch. If you sustain a cut or graze which may be contaminated with soil, clean the wound as thoroughly as possible with clean water and soap and seek medical advice as a tetanus booster may be required.

Third-Party Sites / Premises



When you visit third-party sites e.g. demolition and construction sites, or industrial/commercial premises and property:

Report to the responsible person who should advise you of any on-site hazards and precautions needed to reduce risk, including the presence of any hazardous plant and machinery.

Make yourself known to the owner/occupier or their representative of the premises on arrival and departure.

Follow any on-site safety instructions and request information, if not given.

Before you isolate the gas, supply or take other action which may affect other activities on the site, consult with the site representatives.

Before commencing work on site, you must assess whether there are any hazardous processes and substances associated with

adjoining, or nearby, premises that could have an impact on site activities e.g. exhaust vent outlets.

This also applies to shared sites and operational sites e.g. AGIs etc.

Third Party Construction Sites

Before you start work on a construction site, you must:

- Report to the Site Management, sign into visitors log and undertake any required induction training.
- Make yourself aware of the particular hazards on site e.g. movement of heavy machinery, scaffolding, excavations, confined spaces, unmade ground, etc.
- On emergency work this is also the opportunity to inform the Principal Contractor of what you are going to do and the hazards you may create so that they can manage and coordinate site activities.

When working on a construction site, you must:

- Comply with site rules.
- Wear the appropriate PPE e.g. safety helmet, hi-vis jacket, safety shoes or boots, gloves, etc.

When you have finished work on a construction site, you must:

- Sign out of the visitors log and make the site management aware that you are leaving. CDM regulations will apply on construction sites and formalises the communications and documentation required.
- In addition to the requirements above, you must cooperate with the Principal Contractor and provide information for

inclusion in the Health & Safety Plan and File.

Dangerous / Neglected Buildings

Where buildings become unsafe through neglect and/or vandalism or as a result of fire or explosion, local authorities have a duty to isolate such properties and make safe.

When you encounter a property that is neglected and in a dangerous state, do not enter and contact your line manager, who can inform the local structural engineer, via the emergency number for the local authority.

Hazardous Substances

You must be aware that hazardous substances may be present in properties or on site, either in containers, process plant or as part of the fabric of the building.

When hazardous substances are encountered the following actions should be taken:

- At no time put yourself, or others, at risk from hazardous substances.
- When attending an incident or emergency and the emergency services are in attendance, liaise with the emergency services to discuss details of any hazardous substances that are present, or may be present on the premises.
- Consult with the occupier, landlord or their representative for information on substances which may be encountered.
- Where hazardous substances are identified, consult any COSHH sheets to identify hazards and any appropriate precautions or emergency actions.
- Where substances are not identified, leave alone and contact your Line Manager for advice.

ALWAYS CONSIDER THAT ASBESTOS MAY BE PRESENT IN THE PREMISES

Tools and Equipment



Electrical Tools and Equipment

Work with, or near electrical systems and equipment can only be carried out by competent persons. All portable electrical tools and equipment, if not properly installed or used, are potential hazards (fire, shock and burn).

All tools and equipment shall be registered, regularly inspected and tested. Users are required to visually check prior to use, the condition of equipment and evidence of a valid electrical test.

Ensure correctly fused, free of damage, insulation, plugs, blades, chucks etc. Portable electrical tools and equipment shall not be used for any purpose for this they are not designed.

Only certified electrical equipment shall be used in hazardous areas.

Further guidance can be found in EL2.

To maximise safety, the lowest practical working voltage (110v or less) should be employed. If the environment is a category 'good' the nominal operating voltage for an appliance may be increased to 230v provided you, and the equipment, are protected by a suitable RCD.

Safety guards should be fitted where necessary. Before connecting, or disconnecting equipment make sure the electrical supply is switched off.

Defective tools, appliances and equipment should be withdrawn from use and measures taken to prevent them being used until repaired by a competent person.

Ensure all electrical leads are secure and use floor tidies where obstructing pedestrian routes.

You should be trained in the dangers associated with electricity, protective measures and emergency first aid.

Consultation with relevant individuals as to convenience of supply interruption or safety to other plant

You must only use approved equipment issued or hired by the company. Before selecting the tools or equipment you must ensure:

It is suitable for the job.

You have been trained to use it.

It is appropriate for the work location e.g. flammable atmospheres, adverse weather conditions and the proximity of the public and other workers.

Before you use any equipment, you must:

- Check for, and report, any defects or damage. If it is not safe to use do not start work until a replacement tool has been obtained.
- Check that equipment is in date. Periodic inspections, maintenance and certification is carried out by the company or the hire company, and you must make it available for inspection and maintenance.
- Make sure you are familiar with the controls.

When using the tools or equipment you must ensure:

- All equipment guards are in place and properly adjusted.
- The appropriate PPE is worn.
- It is only used in accordance with the manufacturer's instructions and training.
- Leaks are reported and the spillage contained and cleaned up.
- The equipment should then be returned for maintenance and repair.

When you have finished using the tools or equipment:

- Clean it before storing.
- Re-check it for defects and damage.
- Store safely and securely.

When using tools and equipment the following health hazards may be present:



Vibration:

Rotating equipment, such as drills and angle grinders, produce high levels of vibration. Where this equipment is handheld, the vibration can damage the nerves in the fingers and blood circulation, and cause damage to muscles and bones. This is known as Vibration White Finger / Hand Arm Vibration (HAVs).

Exposure to vibration should be avoided or minimised e.g. job rotation and daily exposure must be below the NGN limit of 250 points.

Daily exposure must be recorded on the NGN HAVS App or your own company recording system.

Noise:

Exposure to excessive noise from tools and equipment such as road breakers, rock drills and vibro-tampers will damage your hearing if you do not protect against it. Always look after yourself and wear the hearing protection that you have been issued with and trained on how to use it effectively. For more information see the Noise section of this book.

Upper Limbs and Backs:

Much of the equipment used at site is heavy and cumbersome to carry and operate. Ensure that you have been trained to use the equipment and that you adopt the most ergonomic position for your comfort and safety.

If you are regularly using this type of tools and equipment that have health hazards associated with them, you will be required to attend regular health surveillance to monitor your hearing performance, effects of exposure of vibration and your musculoskeletal performance to help early detection of any health concerns or damage.

Abrasive Wheels (Including pavement saws / angle grinders)

Grinding wheels and discs must only be fitted by authorised people.

When fitting a wheel or disc, check that it is certified to a higher speed than shown on the machine.

Adjustable rests on fixed wheels should be positioned as close to the wheel as possible.

You must ensure that any sparks cannot come into contact with flammable materials / atmosphere.

The public and other workers must be protected from dust, sparks and debris.

The appropriate face mask, ear & eye protection and safety goggles marked B,3,4 must be worn.

Equipment and/or material being worked on should be secured.

Core Drills

Use correct drill bits and keep drill hole clear to prevent jamming of bit.

When drilling from the outside of a building to the inside, make a visual check inside the property for the presence of cables, pipes and location of joists and supporting walls.

Drill above or below damp-proof course.

Use the drill in the most ergonomic position for your comfort and safety.

Minimum PPE to be worn when using drill – Ear defenders, goggles, gloves.

Ensure a strike alert system is fitted to the machine rack which provides a visible, and audible, warning of a cable strike.

Do not let anyone touch the drill during boring operations.

PE Pipe Jointing

Butt fusion or electro fusion techniques must comply with NGN's joint assurance process. Fusion jointing must not be used if the gas in atmosphere reading is greater than 20% Lower Explosion Limit (LEL.).

Ensure fusion equipment is disconnected from power source prior to cleaning.

Keep area clear while fusion is in progress to avoid risk of injury from automatic moving parts and hot surfaces.



Road Breakers

The prolonged exposure to vibration using pneumatic breakers can cause damage to hands and arms. This damage can take the form of hand arm vibration syndrome (HAVs) which affects the blood vessels, nerves and joints of the hands, wrists and arms.

HAVS can become severely disabling if ignored and its best-known form is Vibration White Finger, which can be aggravated by cold, or wet weather and can cause pain in the affected fingers.

Using vibration-reduced pneumatic breakers correctly can substantially reduce your risks from exposure.

You should adhere to the following guidelines whilst using a breaker:

Choose the correct bit for the surface, e.g.:

- Standard Mole Point – breaking hard surface such as concrete for starting an edge.
- Narrow Chisel – breaking all surfaces once an edge has been established.
- Large Asphalt Cutter – breaking soft surfaces such as path asphalt.
- Extra Strong Asphalt Cutter – for breaking hard bitumen surfaces such as hard rolled asphalt.
- Use an air-line water separator.

Choose the correct length of bit with regard to your height. The aim is to achieve a posture with the handles at the level of your belly button, the arms not unnaturally bent.

Rotate the work. You should operate a road breaker for no more than 20 minutes at a time. This will allow some recovery between spells of exposure.

You must record your daily exposure levels via the HAVS app or your own company system.

Your NGN daily exposure is set at 250 points, you must not exceed this. If you are restricted to 100 points daily, you must also not exceed this.

Use gloves to keep the hands warm. HAVS is made worse by the cold. Thermal liners should be used in addition to normal working gloves to help towards minimising the effects of cold.

Operating Techniques for Pneumatic Road Breakers to Minimise Exposure to Vibration

Remember that these machines have been produced to help you work safer. Apply the following:

- Let the machine do the work.
- Pre-load the machine handles before starting to cut.
- Use an upright, but relaxed body position.
- Hold the machine with a loose hand grip.
- Don't press down so hard as to override the vibration damping.
- Don't bend completely over the machine.
- Don't maintain a rigid arm or body posture.

Select and use the correct tool for the material you are cutting:

- Ensure tool steels are sharp and visually in good condition.
- Work from a cut edge to chip away the material.
- Take small and shallow bites of the material.
- Avoid jamming the tool into the material being cut.
- Move the chisel or mole point often in the cutting material.
- Use chisels and mole points at a slight angle from the vertical to obtain a chipping action.
- Never withdraw the machine steel when the machine handles are depressed, i.e. back hammering.

Rock Drills

Rock drills, of an approved type, are recommended to penetrate the surface of

roadways and footpaths where that surface is exceptionally hard.

The correct drill bit should be used, and the drill hole kept clear to prevent the bit jamming.

PPE shall be worn to help prevent injury to feet, eyes, ears and hands.

The prolonged exposure to vibrating tools can cause damage to the hands and *arms*.

To use the machine correctly:

- Preload the handles before starting to drill.
- Use an upright, but relaxed, body position.
- Gripping the tool too tightly can cause hands and arms to get tired quickly and increases vibration going up your arms.
- Use correct feed force.
- Hold the rock drill upright and away from the body.
- Complete the drilling, stop the rock drill, lift from the under the handles.

The rock drill should only be used to penetrate the road surface and then the impact searcher bar used. As a safety measure, the drill bit should be marked by either chalk, paint, tape or marker pen to ensure the max. depth is not exceeded (380mm/15" in road).

DO NOT

- Press down so hard as to over-ride the vibration damping.
- Bend completely over the rock drill.
- Maintain a rigid arm or rigid body position.
- Rest the rock drill against your body.
- Bottom out handles.
- Hold onto the trigger after removing the rock drill.
- Abuse the equipment.

DO

- Take regular breaks.
- Share the task. (rotate the job with others).
- Regularly exercise the fingers.
- Wear the PPE provided, especially the gloves to keep hands warm. Thermal liners should be used in addition to normal working gloves to help minimise vibration and cold effects.

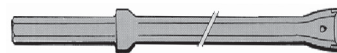
See NGN Procedure NGN/PM/EHS/26
Vibration

Selection of Steels:

Spiral Integral Steels are best for cutting through soft top surface materials such as tarmac and asphalt.



Standard Integral Steels are the best choice for hard materials such as concrete / soft rock under the surface or surface concrete.



Tornado

The tornado must not be used in confined spaces or location where the exhaust plume, which may be a gas in air mixture, could accumulate causing a potential hazard.

The Tornado must not be used on bar holes where you can see, hear or feel the leaking gas.

Safe Working procedures must be adhered to at all times.

Equipment Inspection

Before using the tornado, you must carry out the following equipment inspections and the tornado **MUST NOT** be used if the outcome of any of the following checks is unsatisfactory:

- A single tool 100 CFM compressor is necessary to power the tornado.
- Check that the earth lead is in good condition and is securely connected to both the earth spike and tornado. Ensure the earth spike does not show signs of damage.
- Check that the maintenance inspection tag is in place and the machine is in-date. The inspection tag will be found on the earth lead.

Ignition Sources

The exhaust plume of the tornado is a gas and air mixture and there is a risk, albeit small, that this exhaust plume, can be ignited under certain conditions. It is essential that **ALL**

SOURCES of IGNITION are removed and kept away from the site of operation.

All possible ignition sources within 10m of the downstream exhaust should be removed where practicable.

If there are any sources of ignition within 5m of the exhaust that cannot be removed, the tornado must not be used and where appropriate the Line Manager informed. Escape location should then proceed without using the tornado.

Dust and Debris

Particles of dust and debris may be picked up and ejected from the exhaust of the tornado and measures must be taken to protect members of the public, staff and property from particles ejected. Adherence to the safe working zone of 5m from the outlet of the exhaust should avoid these risks, as the projectiles lose their velocity within the first 2-3 metres.

Operators should always be BEHIND the tornado whilst in operation i.e. upstream of the exhaust plume.

The compressor control should always be located outside the downstream safety zone.

Voltstick

Using the voltstick in accordance with its operating procedures, check the tornado for the presence of an electric current.

REPEAT THIS CHECK EVERY TIME THE TORNADO IS HANDLED OR THE EARTH SPIKE IS MOVED

Should the voltstick illuminate, no person must be permitted to touch the tornado, the earth spike or associated equipment. Contact the local electricity company and inform your responsible line manager.

The site must be secured and manned until the equipment is deemed safe to remove by the local electricity company.

Earthing the Tornado

Earthing the tornado is necessary to eliminate static discharge that could arise as a result of the operation of the equipment. Do the following:

- Earthing is achieved by means of the earth spike and must be done before the machine is operated.
- The earth spike must be inserted into a barhole.
- Prior to inserting the earth spike, the barhole should be confirmed as containing zero gas readings.
- Insert the earth spike into the barhole to a max. of 150mm.
- Removal of the earth spike from the barhole must only be undertaken when the tornado is not in use.

Winches

• **Competence** - Only trained and competent persons must operate winch equipment.

• **Risk Assessment** - Prior to commencing site operations, it is the responsibility of the Site Manager and Team Leader to ensure that a Site-Specific Risk Assessment (SSRA) is undertaken.

• **Equipment Inspection** - Before each use, thoroughly check the winch, cable, and hooks for any signs of wear or damage. Replace any compromised components immediately. Any hired equipment must come with certification.

• **PPE** : Always wear hard hats, protective gloves, ear protection, safety footwear and goggles . Suitable gloves will be required when handling the winch wire Avoid loose clothing or jewellery that could get caught in the equipment.

• **Operate from a Safe Distance**: Never stand directly in line with the cable while the winch is under tension. If the cable snaps, it will recoil in this direction.

• **Safe Working Load** - Never Exceed the SWL. Consult the winch's manual to determine its maximum load rating. Ensure that the load will not exceed the SWL of the towing equipment. The SWL must be indicated on the machine. To

prevent the risk of overloading the equipment resulting in possible failure of the winching equipment or cables appropriate warning devices must be provided with rated capacity indicators and limits.

- **Rigging Techniques:** All winches must be securely anchored. Always attach the cable to a secure anchor point and use the correct hooks and shackles for the job. Avoid using damaged or worn rigging.

- **Mind the Cable:** Never wrap the cable around your hands or any other part of your body. Always keep hands and fingers clear of the cable and drum while winching.

- **Be Aware of Your Surroundings:** Never operate a winch near overhead power lines or in wet conditions. Ensure the area is clear of bystanders before beginning any winching operation. Ensure members of the public are protected.

- **Communication :** If working with others, establish clear hand signals and communication protocols to avoid misunderstandings.

- Take your time and avoid rushing when operating a winch. Haste can lead to mistakes and accidents.

NGN specifies that following winching, a relaxation time **MUST** be allowed, and the minimum relaxation times are:

- 2 hours for LP mains
- 6 hours for MP mains
- 12 hours for 4bar mains

See NGN PR ML6020 Use of winch equipment

See NGN/PM/EHS/13 Work Equipment

Vehicles and Plant



**BEWARE!
MOVING
PLANT**

You must only operate vehicles (including towing equipment) and plant if you are trained and competent to use them.

All vehicle and plant you are expected to use must have been maintained in accordance with the manufacturer's guidelines and instructions. If in any doubt, do not use or start work and contact your line manager for further guidance or assistance.

When operating any company owned, or hired, vehicle or plant at an operational site or gas facility, you must ensure that you:

Before Use:

- Carry out a visual inspection to identify and report any defects and familiarise yourself with any controls.
- Park carefully to avoid obstruction to pedestrians and other road users.
- Consider the surrounding ground conditions with regard to instability and slopes. Wheel chocks may be required.
- Identify and establish designated pedestrian / traffic zones for any temporary interruption of the original route.
- Only use mechanical excavators in the vicinity of buried services only after identifying all hazards and exposing them using safe dig techniques. Before you use an excavator contact your supervisor / line manager.

During Use:

- Use a banksman when driving and your vision is fully, or partially, obscured & also when manoeuvring in a heavily congested area. Pay particular care when reversing .
- Use stop boards when using a dumper truck etc to backfill excavations.
- Do not manoeuvre or operate too close to the edge of excavations and overhead lines / cables, or adjacent to supply pipework valves or structural support.
- Position the vehicle/plant so that the exhaust emissions do not affect the work area, personal breathing zones or building ventilation intake areas.
- Drive within the designated speed limits particularly those displayed at operational sites.

After Use:

- Lock or secure plant and remove the key when it is left for any period of time, particularly if being left unattended on an operational site.
- Ensure it is returned in a clean and well-maintained condition.
- Park within designated areas at company sites so as not to cause obstruction or restrict access to designated emergency exits.

As best practice, green beacons should be fitted on all mobile plant so as to indicate that the operator is wearing a seat restraint.

Waste



What is Waste?

Waste is defined as anything that has been discarded, or that a person, or organisation, intends to discard, there is no further use for that task.

This covers more than just objects and substances that are sent to landfill. Materials sent for recycling or reuse also counts as waste.

NGNs People and Planet Strategy commits us to produce less waste and recycle all of it.

Applying the waste hierarchy is the best approach to tackling waste.

You can help NGN achieve these commitments by the following:

Waste Minimisation

Prior to purchasing a product, consideration should be given as to whether you need it in the first place, is stock available elsewhere, or can an existing item be used?

Secondly, what amount of the product in question do you require – over ordering can lead to excess waste both through extra packaging and through products going out of date without being used.

We can all help to minimise the production of waste.

Look at what you are throwing away and ask yourself:

- Have I got as much use out of it as I can?
- Can someone else make use of it?
- Can it be recycled?
- What is the best way to dispose of it?

NGN waste must not be disposed of in domestic customer's waste.

Common Wastes

Below is a list of waste types which are dealt with regularly. Green denotes that the waste can be directly recycled by your segregation:

Non-Hazardous:

- Cardboard
- Paper and Card
- PE Pipe
- Metal
- Wood
- Excavated Material (unless contaminated)
- General Waste (food, packaging and other non-hazardous material that cannot be recycled)



Hazardous Waste:

Examples of different types of hazardous wastes, some can be recycled.



- Aerosols
- Used oils, diesel, grease.
- Materials contaminated with oils, diesels, greases.
- Lead acid batteries.
- Mixed batteries - Portable batteries, Alkaline Batteries
- Lithium batteries
- Paints and solvents
- Used anaerobic sealant cartridges, foam kit activator residues.
- Syphon waste (water/meg mix)
- Filter dust
- Waste electronic and Electrical Equipment (WEEE)
- Sharps and needles
- Asbestos

If you are unsure on the waste stream, contact Environmental Personnel, Stores Management or Facilities for advice.

Waste Storage Requirements

Whilst awaiting disposal the storage requirements are:

- Taping of battery terminals (lithium batteries only).
- Separation into various streams.
- Containment to prevent escape, leakage, spillage or scavenging (e.g. bin, skip, drum).
- Secondary containment for hazardous wastes (spill tray, bund etc).
- Labelling of waste containers and locating them on a designated, hard-standing area.
- Separate bagging, labelling and logging of any hazardous wastes not listed in NGNs waste catalogue stored in the same container. Hazardous waste must not be mixed.
- Waste electronic & electrical equipment (WEEE) must be taken to one of the central storage sites located at several depots in the network.
- Sharps containers are classified as clinical waste and disposed of by our licensed waste management company. Used sharps containers must be returned to the depot for correct disposal.

Fly Tipping

Fly tipping is the illegal deposit of any waste. Company sites have had incidents of fly tipped materials being left within the site, or adjacent to the entrance of sites e.g. tyres, garden waste, furniture, etc.

Fly tippers are doing something illegal and do not want to be caught, therefore do not approach them, but be prepared to cooperate with investigations undertaken by enforcing agencies. Some wastes can be hazardous so do not handle it, or open any bags or drums being used to contain it.

If you identify fly tipped items then contact your line manager who should contact INJINC to provide necessary details for the fly tipping register, and ensure it is removed safely and reported as an environmental incident.

For significant or repeat fly tipping incidents contact the Local Authority for support in removing the waste and monitoring the area.

Water – Working on or Near

(including contaminated water)

Working near a Watercourse Prior to works commencing:



The EHS team and your manager must be contacted as soon as it is identified that the works will be within 8m of water.

For Emergency Works:

The Environment Agency (0800 807060) must be immediately notified (24/7) of all works that have the potential to affect the river, riverbank or river shape within 8m of a main river watercourse or flood defences, or within a flood storage area. Main rivers and flood defences can be identified here:

<https://flood-map-for-planning.service.gov.uk/>

For Planned Works:

Permits / consents may need to be sought from the Environment Agency, local authority, Internal Drainage Board, Canals and Rivers Trust, or local water authority, which can take several months to be granted. Contact the EHS team as early as possible for support in determining the need for permits / consents and application support.

For further details on permissions for working within 8m of rivers, see Environment – Working near Rivers

When on site:

- Carry out an environmental risk assessment.
- Cover and contain spoil to prevent sediments entering the water e.g., by covering with plastic sheeting and providing sandbag bunding.
- Do not allow waste to accumulate on site, or within excavations – remove it immediately to a bin sited 10m from drains or watercourses.

Hazards and Precautions Book

- Minimise the use of liquids on site – refuel plant and equipment prior to arrival on site.
- Materials and equipment should be stored as far from the watercourse as possible (further than 8m).
- Store all liquids on drip trays / spill decks, use funnels to prevent spillage and ensure that full spill kits are readily available.
- Never leave hazardous substances unattended.
- Replace any vegetation that has been affected by the works.
- Report any incidents to the EHS team as soon as possible.

When working within close proximity of watercourses, awareness of potential for flooding should be maintained, especially when heavy rainfall is forecast.

Floor warning information can be viewed at:

<https://flood-warning-information.service.gov.uk/warnings>

Whenever there is a requirement to work with, near to or on water you should pay particular attention to fast flowing water, changes in the weather (heavy rain/high winds) contamination via Weil's Disease and trench water which has become contaminated with silt, settle able solids, MEG and oil from operational procedures. Weather forecasts and river levels (including trends) are accessible via the internet.

Contaminated water and/or wastewater can be encountered during working activities from both temporary sites (street works) and fixed sites (depot, gas holders, offices).

You should also protect the surrounding water environment. If you are in any doubt, do not start work and seek further guidance from your line manager.

The following must be considered before commencing work on, or near water:

- Contacting the waterway owner where necessary e.g. Canal and River Trust / Environment Agency to advise them / gain approval for the work to be done.

- The potential for water ingress due to high water table, bank stability, etc.
- Buoyancy / Rescue Aids must be available and worn if on/near water and risk of falling in.
- Rescue boat to be provided where necessary – refer to Boats, including inflatables, for further guidance.
- The preparation / availability of emergency contingency plans to deal with sudden flooding.
- You must be able to swim well enough to attempt to save your own life.
- No lone working in water.

It is a legal requirement to prevent pollution of streams, rivers, land and sewers from contamination due to work activities and the following permissions should be sought prior to discharging any wastewater:

- From the Environment Agency (EA) prior to discharging wastewater into controlled waters – rivers, streams, soakaways, surface drains or discharges. A discharge consent is usually issued for this purpose.
- From the local water / sewerage company before discharging wastewater into the foul sewer.

Analysis will confirm the exact nature of the contamination. If the wastewater is not suitable for disposal to sewers, then it should be pumped into bowers for disposal as hazardous waste by a licensed waste disposal contractor.

See Waste Management Section

Prior to, and during, the discharge of wastewater, monitoring must take place to ensure that the consent conditions are met. The results are recorded and retained to be available for inspection, if requested. If monitoring shows that the consent conditions are being breached, then the grant of the consent must be informed, and corrective actions agreed before continuing.

All operations sites should have up to date drainage plans and they should be used to ensure that:

- Wastewater discharges are to the correct sewer / water course.
- All interceptors are present, if necessary, and maintained.
- Hazardous substances (typically oils and chemicals) are stored within a bunded area, where possible, more than 10m from drains and 50m from a borehole to minimise the risk of pollution. These must not be left within a flood plain or in a position where they can enter the water.

Site emergency plans should be in place for the control and discharge of wastewater under emergency conditions, e.g. fire water run-off, spills or flooding conditions.

All relevant documentation, e.g. discharge consents / records of lab analysis, must be stored in a safe location and be readily accessible.

Boats (Including Inflatables)



In addition to routine river survey work, it may be necessary for you to make use of a boat in order to facilitate access to sites and plant, e.g. at times of extreme weather.

Under these circumstances you must follow and consider the following precautions before using a boat:

You MUST:

- Have received training / instructions and be competent in its use.
- Have a risk assessment for the operation.
- Ensure there are emergency plans in place.
- Wear a lifejacket / buoyancy aid at all times when close to or on the water.
- Where applicable, arrange for a maintained motor, or oars, to be available.
- Note: You must be able to swim well enough to attempt to save your own life.
- Have received the recommended inoculations for any potentially polluted water.

- Ensure adequate across riverbank safety lines are provided.
- Wear strobe lighting at night or in dark environments.
- If the boat is motorised, check that a propeller safety guard is fitted.
- Nominate a person(s) act as look out on the bank/water edges to identify potential hazard from floating debris.
- Have a first aid kit available.
- Ensure eye/hand washing facilities are available including detergents.
- Have a line tied off at the bank top, or secured ladders are available to assist access/egress from steep banks.
- Use protective sheeting (for use with inflatables) for protection against barbed wire or other sharp objects.
- Check VHF radio / mobile phone is available and working.
- Secure the vessel or remove from the water when it is not in use to prevent drifting, blockages or anti-social behaviour.
- Inform the Canal and River Trust if the vessel is required on their waters.

Working in Flooded Areas

Infection problems arising from floods in this country are rare.

Usually, any harmful bugs in flood water become diluted and present a low risk, but there are a few precautions to be aware of when dealing with flooding, which should prevent unnecessary additional health problems.

Wherever possible, try to avoid coming into direct contact with flood water. If you have to go into the water, wear waterproof gloves and rubber boots. Remember to be careful of potentially concealed hazards.

Use waterproof plasters to cover any cuts.

Wash your hands – this is the most important way to get rid of harmful bugs. Use warm, clean water and soap, then rinse and dry your hands after going to the toilet, before eating or preparing food, after being in contact with flood water, sewage or items that have been in the water.

To avoid spreading contamination into your vans, put wellington boots into bags after use, return to the depot and wash them in detergent.

Don't eat any food that has been close to any contamination from flood water or sewage.

What to do if you start to feel unwell?

If you feel unwell this does not necessarily mean that you are suffering from any infection. If you are concerned, then call NHS Direct on 111, visit your family doctor, or speak to Occupational Health

Working at Heights



Working at heights is a potentially high-risk activity. Precautions must be taken to protect yourself and any other individuals involved from the hazards associated to working at height.

Before working at height, you must work through these simple steps:

- Avoid work at height where it is reasonably practicable to do so.
- Where work at height cannot be avoided, prevent falls using either an existing place of work that is already safe or the right type of equipment.
- Minimise the distance and consequences of a fall, by using the right type of equipment where the risk cannot be eliminated.

Where work cannot safely be done from the ground, or from part of a permanent structure, you must use properly maintained step ladders, ladders, scaffolding or other company approved means of support, for which you have received information, instruction and training on its use.

You must ensure you consider all alternative systems of working at height before commencing work, and that the safest system is adopted.

A permit to work must be issued for certain activities carried out at height e.g.

- working on roofs or gas holders.
- working next to power lines or other overhead wires.
- work performed on a bridge over a crossing.
- work near a railway track.
- working above head height on scaffolding towers.
- fixed platform or elevated equipment.
- and/or when the work is classed as high-risk after a site-specific risk assessment.

You must not start this type of work until you have been authorised to do so via the issuing of a permit.

When carrying out any work at height, you must always ensure there is a safe, and maintained, means of entry and exit from your workplace. You must also be extra vigilant and be aware of any potential hazards within your immediate working environment, e.g. overhead cables and traffic.

It is your responsibility to ensure that items of equipment used for working at height are used, handled and stored safely at all times. You must also report any situation which may cause a serious and immediate danger to your health and safety.

If you are in any doubt, do not proceed and contact your line manager immediately.

Where you are expected to erect, inspect and work off scaffolding, or other higher risk equipment e.g. MEWP or Cherry Picker, a higher, technical level of training is required and must be approved by:

- The International Powered Access Federation (IPAF).
- The Construction Industry Scaffolders Record Scheme (CISRS).
- The Access Industry Forum (AIF).
- The Prefabricated Access Suppliers & Manufacturer's Association (PASMA).

Adverse Weather Conditions



You should anticipate adverse weather conditions and take suitable precautions. The Work at Height Regulations specifically require that weather conditions be considered.

You should avoid working at height in extreme weather conditions e.g. gusty winds, heavy rainfall, etc. Check the weather forecast before commencing work.

- Winds in excess of 23mph will generally affect your balance.
- A hand-held anemometer can be used to measure wind speed, prior and during, work activity.

The acceptable wind speed will depend on the environmental conditions, the height and the experience of the individuals involved. As a general rule the following should be used:

- Mobile elevated work platforms (MEWP) – the max wind speed for this work is 12.5m/s (28mph).
- Tower scaffold (mobile) – the max wind speed for this work is 7.59m/s (17mph)
- Fixed scaffold system – the max wind speed for this type of work is 11.17m/s (25mph).

You must always follow the controls specified in the risk assessment and ensure additional PPE is used when required, i.e. safety harness.

If in doubt – stop work and contact your line manager immediately.

Carrying/Lifting Tools and Materials

When working at height which involves the carrying/lifting of tools and equipment you must always:

- Use safety kit for lowering and lifting tools and equipment.
- Ensure both your hands are free when climbing scaffolding and ladders e.g. use a toolbelt – Maintain three points of contact at all times.

Mobile Elevated Work Platforms (MEWP)

You must ensure all hydraulic platforms are mounted on stable, level ground and the wheels are locked into position.

Hydraulic platforms must be left in a secure, safe position when unattended, and if possible, you should remove them from site overnight.

You must hold a recognised certificate of compliance if you are required to operate a hydraulic platform.

Harnesses must be worn when using MEWPS – attached to the MEWP at a suitable anchorage point.

Ladders / Step Ladders

Before you start, ask yourself:

“Is a ladder or step adequate? Is it fit for the purpose for which I intend to use it?”

Ladders must only be used for access where the work is light and of short duration and there is always 3 points of contact.

Think ahead of what you will have to do at every stage.

If you need to move around or carry and use materials / heavy equipment, then a step ladder / ladder is not adequate.

You must consider other and safer methods of work:

Step Ladders:



Are used for light, short duration work and when there is no adequate access where the work is being carried out.

Step ladders can only be used for short duration works of less than 30 minutes and where three points of contact can be maintained at all times.

Prior to use and irrespective of which type of step ladder is to be used, the following checks should be made:

- Ensure the step ladders are sturdy and industrial class.

- Ensure only step ladders with locking or bracing fittings are used.
- The ladder is clean and structurally sound.
- The method of opening and locking are working effectively.
- The hinges are in good condition with no side movement.

It is important that the back supports are not used as steps.

DEFECTIVE EQUIPMENT MUST NOT BE USED AND DEFECTS MUST BE IMMEDIATELY REPORTED TO YOUR LINE MANAGER

Ladders – selection and fitness for purpose:

The ladder must be properly secured, and you should keep both feet and one hand on the ladder at all times (three points of contact).

If the work requires two hands, consideration must be given at the survey stage to provide a more substantial working platform and a ladder is not suitable.

The appropriate ladder will be one that is tall enough, when in position, to extend at least 1m past the step off point, or to allow you to stand at least 1m from the top of the ladder when you are working.

Make sure you do not use a metal ladder or reinforced ladder near overhead lines or other power sources. **(see Electricity)**

As a rule, no ladder , vehicle, plant or equipment should be brought closer than:

- 15m of overhead lines suspended from steel towers.
- 9m of overhead lines supported on wooden poles.

You must seek advice from the power company when working closer than these distances as the lines may need to be installed form contact, made dead or barriers put in place to prevent accidental contact.

Step Ladders / Ladders – Inspection:

Inspection should be carried out by a competent person and the results recorded in the ladder register.

A visual inspection should be carried out before use – pay attention to:

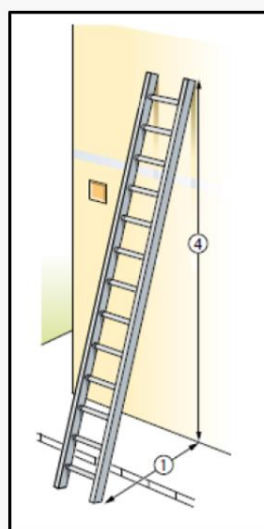
- Any longitudinal play.
- Cracks, warping or rotten stiles and rungs.
- Defects to plugs, rubber feet, pulleys and extension stops.
- Guides must be fitted correctly.
- Signs of corrosion.
- Rotation on rungs – twist and turn to check.
- Adequate lubrication of pulleys and moving parts.
- Rungs, steps and treads are free from oil.

ENSURE THE LADDER IDENTIFICATION CODE IS PRESENT AND LEGIBLE

Erecting Ladders

Ladders are designed so that their safest angle of use comes when every 1 unit out from the wall is matched by 4 units up the wall.

Always place the base of the ladder on a firm, level and dry surface.



If working on grass, tie the ladder to stakes in the ground to stop it slipping, and place a large, flat, wooden board underneath to help prevent it sinking.

Short Ladders:

Basis rules :

- Place the base against a solid surface.
- Lift the top of the ladder and 'walk down' it, rung by rung and hand over-hand, moving in towards the base and pushing the ladder up until the ladder is upright.

- Rest the top of the ladder against the wall or other firm surface, then lift or slide the base out to its final position.

REMEMBER THE 4:1 RATIO

Long Ladders:

- These require 2 or more people.
- Lay the ladder on the ground with the base at the position where it stands.
- One person to stand at the base and put a foot on the bottom rung.
- The remaining person – start to raise the ladder whilst other person reaches forward from the base and grasps the stiles (take care not to pull or strain while the back is arched, as this can cause injury).
- Once the ladder is upright, ease the top to rest against the wall or other firm surface.
- Make sure that longer extension ladders (over 18 rungs) have an overlap of at least three rungs or 1 metre.

Extension Ladders:

- Push up type – need 2 or more people for longer lengths.
- A short extension (2m or 6ft) can be used after the ladder has been raised as described previously in the short ladder section.

Use of a Ladder – DO:

- Get the ladder ‘footed’ by having a second person stand with one foot on the bottom rung and holding a stile in each hand.
- If this is not possible secure the bottom and the upper part of the ladder by tying them, from stiles (not rungs) with ropes or straps onto a stable, fixed object. You can tie the base to stakes in the ground or use a stabiliser to prevent slipping.
- A rope or strap tied from a stile onto a fixed object at about the height of the fifth rung from the bottom, will help to stop any further movement.

- Where the ladder requires top securing, a second person must be present to hold the base of the ladder while the other person climbs to secure.

If it's impossible for the ladder to be “footed” to secure the ladder use a stay or a stand-off resting on a firm surface nearby. Bolt or clip this to the top of the ladder before putting up the ladder.

Never rest a ladder against guttering or other narrow, fragile feature. Where a surface is too brittle or weak to support the top of the ladder do not use it.

Other hints and tips.

- Have 1m (at least 3 rungs) extending beyond a landing place or roof's edge, if you're using a ladder to get yourself up onto a roof or work area.
- Keep your body facing the ladder when ascending or descending.
- Move the ladder to avoid overstretching, and re-secure it whenever necessary.
- Try to keep both hands free to hold the ladder as much as possible while you're climbing or descending – if you need to carry any tools, use a shoulder bag, belt holster or belt hooks.
- Hold onto the ladder with one hand while you work. You can get special trays which fit between the stiles to take paint pots, tools, etc.
- Do not overreach.
- Wear strong, flat shoes or boots, with dry soles and a good grip.
- Erect barriers where necessary e.g. where vehicles, doors and pedestrians are in the vicinity.
- Make sure the door is locked, blocked or guarded by someone if you need to erect a ladder in front of it.
- Ensure extension ladder sections are equally extended.

Use of a Ladder – DON'T:

- Work at height if you're not confident with heights.

- Carry heavy items or long lengths of material up a ladder.
- Reach too far forwards or sideways, stand with one foot on the ladder and the other on something else.
- Put a ladder on top of boxes, bricks, barrels or any unstable surface just to gain extra height.
- Use a ladder in strong winds.
- Use a ladder near any fires.
- Use a makeshift ladder.
- Use guttering or drainpipes as a means of securing a ladder.
- Use step ladders in the closed position as a ladder.
- Allow more than one person on the ladder at a time.
- Use a ladder that is too short.
- Support a ladder by its bottom rung or hand it by an upper rung.
- Climb higher than three rungs from the top of the ladder, or you will be without hand holds.

Storing Ladders



- Always store ladders in a covered, ventilated area, protected from the weather and away from too much dampness or heat
- Ladders can fall, if stored vertically, so take particular care.
- If possible, secure the top with a bracket.
- Never hang a ladder vertically from a rung
- Don't store a ladder in any place where a child might be tempted to climb it.
- For storing horizontally, rack or wall brackets are ideal.
- Keep wooden ladders clear of the ground to avoid contact with damp.

Use of Customer Ladders

Customer's step ladders and non-fixed ladders **MUST NOT** be used. Use only ladders that are recorded in a ladder register and are maintained and inspected by the company.

Where customer's fixed ladders and loft ladders need to be used, the customer who is familiar with them, must demonstrate their safe operation before you use them.

If in any doubt to the customer's familiarity, do not proceed and contact your line manager.

- You must then carry out a site-specific hazard assessment to determine if the ladder is safe and 'fit for purpose' and gives safe access and egress to the work area.
- If the system is unsafe do not use – inform your line manager.

Lofts

- Where you have to use a customer's fixed loft ladder for access, the customer must demonstrate its safe use.

Before starting any work in a loft, you must identify if:

- Electrical wiring is present underneath fitted loft insulation.
- Soldering work is to be carried out.
- Flammable material (lagging, insulation) is present.
- Asbestos lagging is on pipes.
- Water pipes are present.
- When working in lofts – domestic or commercial, you must ensure:
- There is sufficient working space available for you to safely carry out the activity required.
- Adequate lighting of the area being worked in is available.
- You identify all slips, trips and fall hazards e.g. loose and trailing cables.
- Walk on joists and use crawling boards where required.

- The correct PPE is worn when lifting loft insulation material e.g. gloves, masks, goggles.
- Head injuries are avoided by wearing a bump cap.

Under certain conditions working in lofts may require a separate risk assessment under the Confined Spaces Regulations – **See Confined Spaces section of this book.**

Tower Scaffolds



This section is only applicable to anyone who has responsibility for the erection of Tower Scaffolds, or contractors employed by NGN, to erect General Access Scaffolds.

Foundations: must, at all times, be capable of sustaining the total load. DO NOT erect towers on recently made-up ground, or on lightweight manhole covers, or timber spanning excavations.

Castors: should be at least 125mm (5") in diameter and should have their maximum permitted load stamped on them. They should be capable of being braked and should only be used on hard, level surfaces.

Adjustable Legs: may be needed to ensure that the tower is vertical but must not be used to extend the height of the tower.

Height - Manufacturer's maximum height must not be exceeded. Where fitted, locking devices must be used and correctly engaged.

Vertical and Horizontal Members: are normally fitted by means of a socket and spigot. They should be properly seated and, if provided, the locking pin must be engaged correctly.

Braces: Towers should be braced in 3 dimensions in accordance with manufacturer's instructions.

Stabilisers and Outriggers: Used to effectively allow height increase – **must be used in accordance with manufacturer's instructions.**

Spigots: should be straight and parallel with the axis of the column tube

Storage: Aluminium is rust proof, but to avoid oxidising it is advisable so store indoors

Inspection:

Castors:

- Should be free from damage.
- Adjustable legs must be operating effectively.
- Must not be damaged or bent.
- Threads should be undamaged and free from debris.
- Brakes must be functioning.

Frame Members:

Outriggers & Stabilisers:

- Check for damage and effective functioning.

Surface:

- Should be free from cement, paint particles and excess oil and grease.

ENSURE THAT IDENTIFICATION CODE NUMBERS ARE PRESENT AND LEGIBLE, FAILED SYSTEMS MUST NOT BE USED AND THE RESULTS OF INSPECTIONS MUST BE REPORTED YOUR LINE MANAGER

Erection and Use of Tower Scaffolds

The height of the tower must never be more than 3 times that of the smallest base dimension (3:1 ratio for outside in light winds. 3.5:1 for inside. If ratio is not known apply 2:1)

Colleagues who erect, alter or dismantle any type of scaffold must:

- Be competent to do so or be supervised by a competent person.
- Get help when moving a tower, always lock the wheels when stationary, only use on a level and firm surface.
- Where necessary, use signs and barriers around the tower – this may be in accordance with NRSWA.
- Use only the approved method of climbing the tower – climbing up the outside of a

tower which is not designed for that purpose can cause the tower to topple.

- Always fit edge protection, guard rails, toe boards, etc in accordance with supplier's instructions

Towers must be inspected before use, after adverse weather conditions and when site conditions change.

The tower must be tied rigidly to the structure it is serving, or additional support provided when:

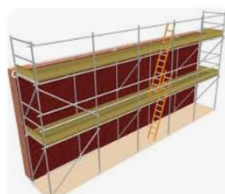
- The tower is sheeted.
- It is likely to be exposed to high winds.
- It is used for carrying out grit blasting or water jetting.
- Heavy materials are lifted up the outside of the tower.
- The tower base is too small to ensure stability for the height of the platform. Use boards to spread the load, consult line manager if ground conditions are unstable, before moving towers, check that there are no holes or dips in the ground.

DO NOT:

- Work alone on a tower scaffold.
- Overload the scaffold – always follow the supplier's / hirer's instructions.
- Move tower with personnel or materials on or use powered vehicles.
- Move the tower in windy conditions.
- Use a ladder footed on the working platform or apply other horizontal loads which could tilt the tower.

ALWAYS HAVE AVAILABLE, AND USE, THE SUPPLIER'S / HIRER'S MANUAL / GUIDANCE

General Access Scaffolds



It is unlikely that you will have been trained in the erection of general access scaffold – approved contractors need to be employed for this purpose.

If you use general access scaffolds, however, you need to be aware of the following requirements for safe erection and use of scaffolds.

Before using any scaffold, you must ensure that:

- It is capable of supporting loads likely to be placed on it. Scaffolds are not usually designed to support heavy loads on their working platforms. If intending to load out platforms, tell whoever is providing the scaffold – a special design might be required).
- The platforms are fully boarded and wide enough for safe working, entry and exit.
- Scaffold boards are properly supported and not overhanging excessively e.g. no more than 4 times the thickness of the board.
- There is safe access onto the work platforms e.g. ladders.
- It is inspected whenever it is substantially altered, or adversely affected by, high winds.

You must not use any scaffold you identify as being left in a partly erected or dismantled state, or any scaffold suspected of having parts coming loose or having parts removed by a non-competent person.

In such cases, you must ensure the scaffold is:

- Removed from service immediately.
- Marked with prominent warning notices displayed.
- Blocked to restrict access.
- Not put back into service until approved by a competent person.

Inspection of Scaffolds:

The person responsible for the scaffold must have inspections carried out by a competent person. Whoever controls the activities of others who use the scaffold also need to ensure it is safe before they use it for the first time.

If the competent person is not satisfied that work can be carried out safely, they should advise the person for whom the inspection was carried out as soon as possible. The workplace

should not be used until the defects have been addressed.

NOTE: where a person can fall 2m or more from a working platform, the platform and associated parts should be inspected by a competent person when the platform:

- Is to be used for the first time.
- Has been subjected to substantial alteration.
- Has been subjected to any event likely to affect its stability e.g. high winds.
- Has not been inspected during the previous seven days.

Reports

A written inspection report should be made following an inspection and retained for future reference within the inspection register on site, until the work is completed.

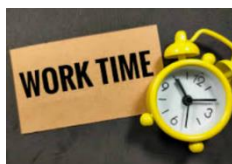
The report should be retained for 3 months.

A competent person needs to complete the report before the end of the working period. The report (or copy) should be provided to the person on whose behalf the inspection was carried out within 24hrs.

A report is not required for a mobile tower scaffolding unless it has remained erected in the same place for more than seven days.

For further guidance see NGN/PM/EHS/100 Working at Height

Working Time



The regulations relating to working time were introduced to protect all workers from the risks associated with working excessive hours which may lead to stress, fatigue and risks to health and safety.

NGN has a workplace agreement and company policy on working time.

The main points of the agreement are:

For colleagues over the age of 18 years of age:

- Will not normally work on average more than 48 hours a week calculated over a 17-week rolling reference period. This calculation does not take into account annual weeks holiday taken so additional reference periods may be required to account for time off.
- Travel time is included in the working time calculation, this is not paid time.
- Must sign an opt out agreement if they choose to constantly exceed the 48-hour average in the 17-week rolling period.
- Must sign and opt-in agreement, as per NGN policy, if they wish to be restricted to a max of 48hrs average (calculated over a 17-week rolling reference period).
- Declare to NGN if they have a 2nd job that could impact on working time.
- Are required to take a minimum 20-minute rest break every six hours worked.
- Will normally will take a meal break (30 minutes) midway through the working day.
- Will not normally take meal or rest breaks at the end of a shift.
- Will normally have 11 hours consecutive rest in any 24-hour period.
- Will receive 11 hours compensatory rest where it is not practical to provide consecutive rest due to work patterns, callout or workload.
- Will receive compensatory rest within a reasonable time, but not necessarily in one continuous period.
- Working time rest is different to callout working rest (sleep time)
- All consecutive, compensatory, meal and rest breaks are unpaid.
- Will not normally exceed 60hrs in any one week, depending upon shift work and gas emergencies. When reaching 60 hours of work in a single working week, colleagues must risk assess with dispatch to establish whether they are fit enough to continue at work or need a break/relief.
- Minimise instances where colleagues work for more than 12 hours per day, depending upon shift work and gas emergencies.
- That no colleague works in excess of 16 hours in any working day, and the business will endeavour to ensure appropriate measures are in place to achieve this.

- Will undertake a risk assessment when a colleague is approaching 12hrs, again at 14hrs actioned by the colleague and dispatch.
- Under exceptional circumstances, a further risk assessment will be carried out by a Senior Manager at the point where the colleague is likely to reach 16 hours. Working beyond 16 hours must only be considered in exceptional circumstances where there is a gas emergency situation to protect life and property or a loss of supply emergency. Such situations **must** be approved by a Senior Manager.
- Any general concerns about feeling fatigued should raise with your line manager or NGN dispatch.

NOTE: in addition to this agreement, HGV drivers will comply to the Road Transport Regs 2005

For colleagues under the age of 18 years of age the following applies:

- Should not work between the hours of 10.00pm and 6.00am.
- Are entitled to a daily rest period of 12 consecutive hours in any 24-hour period.
- Are entitled to an uninterrupted weekly rest period of two days (consecutive days where possible) in every 7-day period – this may be interrupted by justifiable short periods of work although the rest period must not be shortened to less than 36 hours.
- If working for more than 4½ hours are entitled to 30-minute daily rest break which should be taken consecutively where possible.
- Are entitled to 4 weeks paid leave per year after a qualifying period of three months employment.
- Young people will not be allowed to exceed or opt out of any of the working time minimum requirements.

Your individual right to opt-out of 48hr Limit:

If you are over the age of 18, you can choose to agree to work more than the 48hr average limit. This is your voluntary right under the

working time regulations. If you decide to opt-out, your manager still has a responsibility to ensure that your working time is not excessive.

If you opt-out, your agreement must be in writing using the appropriate Opt Out Form available from your line manager, HR or via [myNGN - Policies & Procedures - HR View](#).

You can opt back in at any time using the Opt in Form, as long as sufficient notice of 30 days has been given.

NGN will:

- Retain these written agreements for not less than 2 years following expiry for inspection by the HSE.
- Record and monitor your working time, via the timesheet portal, even when an opt out agreement applies.
- Monitor your overtime working, to reduce its use and any adverse effects which may affect your health and safety.

A full copy of the agreement can be obtained from our line manager or Human Resources or via [MyNGN - Policies & Procedures - HR View](#).

Work Related Team Events

A work-related team event is an extension of your workplace and the same health, safety and environmental requirements and responsibilities apply as to those applicable to your normal working activities.

If it is considered to be a formally organised event, which would entail an unacceptable level of risk to a person's health and safety if not properly controlled, then the event organiser and manager must carry out a risk assessment.

Young Persons at Work



Young persons, under the age of 18, at work or on work experience, are protected by specific health and safety legislation.

A risk assessment must be carried out prior to the YP attending NGN and the EHS Department can assist with this.

The YP must be aware of procedures that are in place to protect their health, safety and wellbeing when working within an operational site or any NGN premises.

The procedures are available from the relevant line manager, HR or from the MyNGN portal.

Also see – Working Time



Personal Protective Equipment

PPE Range . Please check the online supplier catalogue for the most current items.

Description and Specification	Image
Hi Vis Arc & Flash Fire Polo shirt. REDD FR AS ARC Flash Fire Polo shirt Approved to Approved to EN ISO 11612:2008 / A1 B1 C1 F1 EN 1149-5: 2008 IEC 61482-2 : 2018 APC1 - ELIM 4.6 cal/cm² EN ISO 20471 : 2013 +A1 2016 / Class 3 EN ISO 13688 : 2013 ISO 13506:2008 Less than 4% 2nd & 3rd Degree predicted Body Burns (Coverall, Polo, Trouser) Fabric Weight: Max 210gsm Premium Breathable Polo shirt with chevron tape and a pocket. 50 wash Chevron heat seal tape – lightweight and more flexible, Additional pocket and loops including thumb loops. Inherent Flame-Retardant Fibres Mandatory. Available in Full Men's & Ladies Sizing Tested using a two-layer system on a 4-second mannequin burn test to simulate a low-pressure ignition. The predicted body burn (coverall, polo, and trousers) does not exceed 4% after 4 seconds. This represents Layer 1 of 2 in the garment assembly. Also tested as part of the Fire suit System as Layer 1.	
Hi Vis Arc & Flash Fire Cargo Trouser REDD FR AS ARC Flash Fire Cargo Trouser EN ISO 11612:2008 A1, B1, C1, F1 EN 1149-5: 2008 IEC 61482-2 : 2018 APC1 – ELIM 9.5 cal/cm² ISO 13506:2008 Less than 4% 2nd & 3rd Degree predicted Body Burns (Coverall, Polo, Trouser) Fabric Weight: Max 220gsm Premium Breathable Men's Flame Retardant, Anti-Static and Arc Resistant Cargo Trouser with chevron tape. Ripstop Weave Fabric, Triple stitched through, elasticated waist, 2 rear pockets and 2 cargo pockets. External top loading kneepads with articulated knee. Inherent Flame-Retardant Fibres Mandatory. Available in Full Men's & Ladies Sizing Tested using a two-layer system on a 4-second mannequin burn test to simulate a low-pressure ignition. The predicted body burn (coverall, polo, and trousers) does not exceed 4% after 4 seconds. This represents Layer 1 of 2 in the garment assembly. Also tested as part of the Fire suit System as Layer 1.	

Hi Vis Arc & Flash Fire Cargo Kneepad Coverall

REDD FR AS ARC Flash Fire Kneepad Coverall

Approved to
EN ISO 11612:2008 A1, B1, C1, F1
EN 1149-5: 2008
IEC 61482-2 : 2018 APC1 – ELIM 9.5 cal/cm²
EN ISO 20471 : 2013 +A1 2016 / Class 3
ISO 13506:2008 Less than 4% 2nd & 3rd Degree predicted Body Burns (Coverall, Polo, Trouser)

Fabric Weight: Max 245gsm
Lightweight coverall designed to be worn over the Sweatshirt cuff design, with 2 cargo pockets, 2 chest pockets and arm pocket all with 2 gas loops. External top loading kneepads with articulated knee design. Ripstop weave fabric. 50 wash FR Chevron tape with waist adjustment. Elasticated leg adjustments with bellowed zip access to take off over the boots. Inherent Flame-Retardant Fibres Mandatory.

Available in Full Men's & Ladies Sizing

Tested using a two-layer system on a 4-second mannequin burn test to simulate a low-pressure ignition. The predicted body burn (coverall, polo, and trousers) does not exceed 4% after 4 seconds. This represents Layer 2 of 2 in the garment assembly.



Hi Vis, 8 Second Flash Fire Suit

REDD FR AS ARC Flash Fire Suit

Approved to
EN ISO 11612:2008 A1, A2, B1, C2, E3, F1
EN ISO 20471 : 2013 +A1 2016 / Class 3
IEC 61482-2 : 2018 APC2
EN13034 Type 6
EN 1149-5: 2008
EN ISO 14116 Index 3
ISO 13506 (8 seconds) - achieving less than 8% 2nd & 3rd Degree Burns when worn as a two-layer protection system (trouser, polo shirt, fire suit)

Inherent Flame-Retardant Anti-Static Fire suit
Brass zip with full Velcro Fastening Flap
50mm FR Reflective Scotchlite Tape
Mandarin Collar with FR Popper fastening (No exposed Velcro)
Left Chest Pocket with Stud Fastening
Bellowed Elasticated at Ankles with Zip Access

Tested using a two-layer system on an 8-second mannequin burn test to simulate a low-pressure ignition. The predicted body burn (coverall, polo, and trousers) does not exceed 8% 2nd & 3rd Degree Burns after 8 seconds. This represents Layer 2 of 2 in the fire suit assembly .



Hi Vis Arc, Softshell Jacket Redd FR AS ARC Hi Vis Softshell Jacket Approved to EN 61482-2:2020, APC 1 EBT 17 cal/cm², ELIM 15 cal/cm² EN ISO 11612:2015, A1, B1, C2, D1, F3 Breathable and windproof Breathability: 5.000g/m²/24h Hidden zipper with velcro closure Two loops for walkie-talkie / gas detector or similar, Sleeves with velcro adjustments, one chest pocket with zipper, two side pockets with zipper. One inside pocket with Velcro Navy Front panel to protect dirt ingress.	
Hi Vis Arc Flash Orange Polo shirt. Lerby Hi Vis Polo shirt Lightweight Approved to IEC 61482-2 : 2018 APC1 - ATPV 5,5 cal/cm² EN ISO 11612 : 2015 / A1 B1 C1 F1 EN 1149-5 : 2018 EN ISO 20471 : 2013 +A1 2016 / Class 3 EN ISO 13688 : 2013 Fabric weight max: 210gsm To be worn exclusively during the summer months when a site-specific risk assessment identifies issues with flies attracted to Hi-Vis Yellow. This garment should not be worn in broader settings, as Hi-Vis Yellow is the designated NGN brand colour.	
Hi Vis Arc Flash ¼ Zip Sweatshirt Stretch Hi-vis sweater with ARC protection. Approved to IEC 61482-2 : 2018 APC1 – ELIM 11 cal/cm² EN ISO 11612 : 2015 / A1 A2 B1 C2 F1 EN 1149-5 : 2018 EN ISO 20471 : 2013 +A1 2016 / Class 3 EN 13034 Fabric weight max: 320gsm Hi-vis sweater with segmented reflective tape that offers ARC protection. The bi-colour sweater is equipped with 2 side pockets with zip closure , convenient in hazardous situations! The sweater complies to international standards like IEC 61482-2, EN ISO 11612, EN ISO 11416 and EN 1149-5.	

Multinorm Hi Vis Jacket Redd Highly Breathable Unlined Lightweight Waterproof Jacket Approved to EN 61482-2:2020, APC 1 ATPV 12 cal/cm², EN ISO 11612:2015, A1, B1, C1, E3, F1 EN 343 4:4;X EN ISO 20471 Class 3 EN 13034 Type PB [6] Men's & Ladies Fit Breathable, wind and waterproof with taped seams, Waterproof: ≥20.000 MM Breathability: 14.000g/m2/24h Large hood which fits over helmets Detachable hood with press studs and elastic drawstring, Hidden hood in collar, Hidden two-way zipper with velcro closure, Two loops for walkie-talkie / gas detector or similar. Sleeves with velcro adjustments Adjustable hem with elastic drawstring One chest pocket with velcro Two front pockets with flap One inside pocket with zipper	
Bump Cap Low Profile Comfort Baseball Bump Cap No Metal Inserts Breathable Approved to EN 812:2012 To be worn on all occasions where accidental head strikes on fixed objects may occur. For example, governor regulator rooms, meter houses, understairs cupboards or restricted space around pipework.	
Safety Helmet Centurion Concept Helmet with NGN Pad Printed Logo Approved to EN 397 1000V a.c MM -40 Degrees To be worn on all construction sites, where there is a mandatory sign displayed on construction site and where there is a risk of you striking your head or a falling object striking you Centurion	
Browguard & Visor Centurion S94 Browguard Centurion S590 Visor Use Approved to EN 166F. To be used when handling liquids such as caustic soda or acids or applying herbicides etc. The visor can be used as a stand alone when fitted to the brow guard or can be fitted to the safety helmet by use of the face screen carrier. The visor should not be used when using road breakers,	

rock drills etc. where there is risk of flying particles	
Face Screen Carrier & Visor for Safety Helmet Centurion S54 Face Screen Carrier Centurion S580 Visor Use Approved to EN 166F. To be used when handling liquids such as caustic soda or acids or applying herbicides etc. The visor can be used as a stand alone when fitted to the brow guard or can be fitted to the safety helmet by use of the face screen carrier. The visor should not be used when using road breakers, rock drills etc. where there is risk of flying particles.	
Ear Defenders for Safety Helmet Sana Helmet Mounted Ear Defender Approved to Approved to EN 352-3 SNR 30 To be worn when there is a need to offer hearing and head protection. Examples of where these should be worn are when using vibro tampers, road breakers, drills, near gas compression equipment and regulation equipment or where there is a mandatory sign displayed.	
Ear Defenders - Stand Alone Betafit Folding Ear Defender Use Approved to EN352.1:2002 SNR 32 H-32 M-30 L-22 To be worn in noisy environments (when using vibro tampers, road breakers, drills, near gas compression equipment and regulation equipment or where there is a mandatory sign displayed) where there is not a requirement to wear a safety helmet as well.	
Safety Goggles Non-Vented Safety Goggle Anti Scratch and Anti Mist Approved to EN166 1 BT 3 4 9 N Also, EN 166 K & N Rated Anti Scratch & Anti Mist To be worn where there is a hazard from airborne dust and flying particles or where a mandatory sign is displayed. Goggles should also be worn where risk of eye contact with chemicals is likely.	

Safety Glasses

These should be worn subject to risk assessment on all operational sites when an activity or work process is taking place or where there is a risk of eye injury. This will include customers premises, the public highway, excavations, governor compounds, depots and holder stations

NOTE: These glasses are also available with dark lenses for sun protection

Employees who occasionally visit operational sites, or prefer to wear their own prescription glasses with over glasses.

Employees requiring prescription glasses need to be provided with an authorising form signed by their manager. (Managers must complete all information in the company details, authorising officers and employee details).

Approved to EN166-1F KN EN170

Anti-Scratch & Anti-Mist Safety Glasses are clear and K&N rated Safety Eyewear

A dynamic, sports style spectacle with a premium frame for ultimate fit and comfort

Optical Class 1, highest quality clear vision polycarbonate lens

Frame Mechanical Strength FT – withstands low energy impact from high-speed particles at extreme temperatures.

Soft nose pads and dual technology arms provide ultimate comfort and non-slip fit.

Clear KN rated Anti-Scratch and Anti-Mist, close fitting PC lens, with temple wrap for maximum protection.

Additional UV Filter blocks harmful ultraviolet rays

Additional K and N coatings provide superior protection against internal misting and external surface damage by fine particles.

Supplied with Microfibre storage pouch.



Disposable Dust Masks

A disposable dust mask is to be worn in dusty atmospheres, where a mandatory sign is displayed or there is risk of inhalation of oil mist or asbestos fibres.

There are three types of dust mask available, it is important the correct dust mask is selected.

Betafit 3030V Disposable Masks

(Use - dusts generated from grinding operations, using herbicides, changing filters, sweeping dusty areas and streetworks (excluding use of a pavement saw)).

BLS 201 Dust Mask

(Use - higher degree of protection against dust i.e. use of pavement saw/working with asbestos containing materials)

BLS 222 ABEK 1P3 R Filter

(Use - protects against oil mists e.g. compressor station sites)



	
Glove A – General Handling Close Fitting Glove Approved to EN388 4121 Size 7-11 The thinnest glove on the market – excellent tactile feel with Nitrile Coating on high quality comfort liner Touch Screen General Handling – Cut Level 1 / A – Low protection against minor cuts / nicks whilst remaining dextrous for close work.	
Glove B – General Handling Nitrile Glove Approved to EN388 4131A. Sizes 6 - 12 Breathable Nitrile Coating on Knitted Grey liner. Hard wearing and dextrous, excellent tactile grip General Handling – Cut Level 1 / A – Low protection against minor cuts / nicks whilst remaining dextrous for close work.	
Glove C – Thermal & Waterproof Maxidry Zero Approved to EN388, EN511 4231 Sizing 7-11 Full Coated Waterproof Thermal protective glove Heat / Cold Protection – Thermal and Cold protection gloves	

Glove D – Cut Protection & Waterproof Heta Cut E ¾ Dipped Glove Approved to EN388 4544E. Sizing 7 - 11 Sandy Grip Nitrile NBR coated on a Cut E rated 18-gauge dextrous liner glove Cut Protection – BEST PROTECTION ALL ROUNDER GLOVES Higher cut resistance for handling sharp materials, higher risk environments	
Glove E – Cut Protection General Handling Heta Cut 3 Nitrile Stop n Go. Approved to EN388 4X43C. Sandy Grip Nitrile NBR coated on the highest rating Cut c liner glove for dexterity. Stop n Go Banksman Cut Protection – BEST PROTECTION ALL ROUNDER GLOVES Higher cut resistance for handling sharp materials, higher risk environments	
Glove F – General Handling & Waterproof Maxidry Gauntlet Approved to EN388 4131 Size 6- 11 Purple nitrile coated drivers' glove, excellent dexterity for a full waterproof glove to the wrist. Waterproof handling – Wet application when handling liquids / oils NOT CHEMICALS	
Glove G – General Handling & Waterproof Maxidry ¾ Coat Approved to EN388 4131 Size 6- 11 Purple nitrile ¾ coated grip glove for use with liquids & oils. Breathable to the back of the hand to ensure greater comfort. Waterproof handling – Wet application when handling liquids / oils NOT CHEMICALS	
Glove H – Thermal & General Handling MaxiTherm Approved to EN388 1214B, EN511 X1X EN407:X2XXXX Sizing 7-11 Latex coated thermal protective glove with insulated knitted liner in orange Heat / Cold Protection – Thermal and Cold protection gloves	

Glove I – Thermal & General Handling FR Drivers Glove Approved to EN388 4332B, EN407:43221 Sizing 6 - 12 FR Drivers Glove providing flame retardant protection and also some level of protection against contact heat as per the EN407 rating	
Glove J -Nitrile Glove Anaconda Nitrile Gloves Grip coated nitrile disposable gloves – low level of protection as these are non EN388 (mechanical risk) glove. Light Duty – no mechanical protection for low-risk tasks only	
Glove L – Class 3 Electrician Gauntlets (26,500V) Electricians Gauntlet Approved EN 60903 30kV Sizing 8 - 11 Designed to be resistant to acid, ozone, very low temperature and oil and are designated with RC category rating. Designed and tested in line with all relevant EN60903 and IEC60903:2002 standards and are tested at a voltage of 30kV. This gives them working voltage range of up to 26,500V (26.5kV).	
Glove K – Electricians Over Gauntlet Approved to EN388 3111X. Sizing 9-13 Designed to be worn over Electricians Gloves Provides additional mechanical protection. Offers a higher level of grip. Protects in dirty or oily environments. Extends the lifespan of Electricians Gloves	

WHICH GLOVE SHOULD I USE?

Tasks:	1 st Choice Glove	Alternatives
General Purpose Glove, including Digging	E	C, D, I
Cutting and Threading Pipe	E	D
Rock Drilling	C	D, E, H
Assembling and Dexterity Work	A, B, E	F, G
Wrapping Denso	J	
Working with Oils, Greases and Anaerobics	F	J
Drilling Walls	E	D, C, H
Using the Roadbreaker	C, H	E, I
Handling Pipe	E	I
Cementing/Grouting	D	E, J
Spray Painting	D	I, J
Handling Heavier Chemicals	F	
Bar Holing	E	D, C
Moling – Electrical Work	L, K (K worn over L)	
Soldering	E	D
Lifting Floor Boards	E	D

General Purpose Ankle Boot

TRAK Sustainable Waterproof Boot S7L SR FO HRO SC

Use

This footwear is to be used in customer facing and general-purpose duties. The Haldon is Trak's membrane lined, water resistant boot. The safety boot provides a steel toecap, protective midsole, super comfort insole, TPU scuff cap, and slip resistance. The lining and thread are made from 100% recycled, GRS certified materials.

Sizes Available: 7 – 13 EN Standards Specifications: EN ISO 20345:2022 S7L SR FO SC



All terrain Heavy Duty Ankle Boot

Totector 2701

Use

This footwear should be worn where ankle support is required e.g. whilst working in excavations, or on uneven ground etc.

Approved to EN ISO 20345:2011 S3 HI CI HRO SRC

Steel toecap

Midsole protection

Description automatically generated Ankle support & TPU

Ankle Guard

Anti-static

FORCE10® Toe Cap Construction of Heavy Duty TPU

(Thermoplastic Polyurethanes) with triple stitching

Dual Density Nitrile Footbed with IMPACT SHIELD™

Digging Plate



Reinforced R-TEN Threads & tested Seam Strength 15N/mm minimum Closed eyelets only (No open lace hooks) Mid and High options. High Leg Boot: 7" with No.8 YKK side zip	
Nitrile Wellington Boot Silt S5 CI HRO SRC Composite Neoprene/Rubber Boot Use For use in wet areas or when handling large quantities of liquid chemicals. When worn in conjunction with the disposable coverall - see Work Wear Catalogue, the leg of the trouser should be worn outside the wellington. With reinforced digging instep. 100% Non-Metallic, with protective toecap and midsole, Silt is highly robust and developed with specialist durability materials including FORCE10® Components, an Activ-Step® PU footbed and 5mm Neoprene upper. Approved to: EN ISO 20345:2011 S5 CI HRO SRC	

Electrically Resistant Wellingtons

Dielectric Insulating Boots to ASTM F1117-93 Sole (Steel Toe Cap to EN345/No Steel Mid Sole)

An electrically insulating dielectric boot with an integral steel toe cap and vulcanised rubber sole for superior slip resistance. The Respirix Dielectric boot allows high voltage live working at up to 17kV, with every boot tested at 20kV AC, with optional DC testing at 50kV (Class 2).

Features • Injection moulded using our proprietary Dielectric compound for a seamless boot with excellent electrical insulation properties • Step voltage protection up to 35kV* • Arc flash protection – Meets the requirements of ASTM F2621-2019 at 40Cal/cm²** • 200 Joule epoxy coated steel toe cap (soft toe version also available) • Vulcanized rubber sole for improved slip resistance - 30% better than a conventional safety boot sole • Durable, cut-resistant vulcanised rubber sole, significantly extends working life, even in harsh terrain • Cleated outsole for maximum grip in wet and oily conditions (SRC) • Heat resistant sole EN 20345:2011 HRO, 60 seconds at 300°C • Cold insulation to EN ISO 20345:2011 CI • Fuel and oil resistant sole • Ergonomic cushioned insole (removable & machine washable) for greater wearer comfort • Energy absorbing tunnel system in heel to EN 20345:2011 E • Non-wicking knitted nylon lining • Kick-off lug • Adjustable height • CE marked on the shaft with date and year of manufacture • REACH Compliant

EN ISO 20345:2011 - SB E CI HRO SRC FO EN 50321:2018 Class 2 ASTM F1117 ASTM 2413 EH (18kV)



Black Brogue Shoe

Quality leather safety brogue shoe incorporating composite safety toecap and midsole.

Use

This footwear should be worn where no ankle support is required. This footwear should not be used where there is a risk of objects entering the sole of the foot.

Approved to EN20345 S3 SRC



Cofra Safety Trainer Boot & Shoe

Ready

Use

Specification Water repellent nubuck Breathable textile SANY-DRY® 100% polyester fabric, three-dimensional, breathable, antibacterial, it absorbs and releases the moisture, abrasion resistant, average weight: 1.09 kg EN ISO 20345:2011

Not be used in Digging and Excavation Environments

Approved to EN 20345 S3 SRC



Overshoes

Chemsplash PU Grip Overshoes

Use

Chemsplash Grip Overshoe with Anti-Slip sole is made from Chemsplash 55gsm Micro Laminate fabric, which is soft and microporous. It is strong and resistant to chemical splash and dust. It is anti-static to meet with EN1149-5:2008, lint free and suitable for clean room applications. It features a 70gsm PU Anti Slip Sole which is also Anti-Static.

Approved to EN1149-5:2008



Internal Rubber Knee Pads

Neoprene Knee Pads

Use

For circumstances where the knee pads that are available for use with the workwear trousers can be used.



Kneeling Pads

Impacto Rubber Mat

Use

These kneeling pads are for use in circumstances where either the external rubber knee pads or the pads available with the workwear trousers cannot be used. These pads can also be used to sit on for short periods of time if required.



PPE Kit Bag

Use

For the storage and safe transportation of all items of Personal Protective Equipment



ICE sheets

ICE SHEET LISTING

ICE SHEET 001 - DISINFECTANT E.G. DISINFECTANT TABLETS, STERI-TABS, JEYES FLUID, MILTON STERILISING FLUID, PINE DISINFECTANT, OTHER LIQUID DISINFECTANTS
ICE SHEET 002A - PAINTS AND TREATMENTS (WATER BASED) E.G. RUST CONVERTOR, TIMBERCARE, DUCKSBACK QUICK DRYING WATERSEAL)
ICE SHEET 002B - PAINTS AND PIPE COATINGS (SOLVENT BASED) INCLUDING BITUMEN PAINTS E.G. AQUASEAL, BITUMEN PAINTS, ENAMELS, METAL PAINTS, SOLVENT BASED PRIMERS, HAMMERITE, SIGMA PAINTS, SOLVENT CLEANER/THINNERS - HAMMERITE, WEATHERSHIELD EXTERIOR HIGH GLOSS, WHITE SPIRIT, WOOD PRIMER, GLOSS PAINTS
ICE SHEET 002C - PAINTS AND PIPE COATINGS (CONTAINING ISO-CYANATES) TWO PACK MASTIC GRADES, POLYURETHANE ACTIVATORS (2 PACK), ACTIVATOR & BASES
ICE SHEET 003 - WEEDKILLERS (HERBICIDES) E.G. ROUND-UP, HERBICIDES, KATANA, DOFF MOSS KILLER
ICE SHEET 004 - FUME FROM WELDING AND FLAME CUTTING E.G. FUME/SMOKE FROM WELDING/CUTTING, WELDING FUME
ICE SHEET 005A - SOLDERING FUMES AND FLUXES LEAD-FREE SOLDER ALLOY, REGULAR FLUX PASTE, BRONZE FLUX, SOLDER FUME, SOLDER WIRE 60% LEAD, TIN/LEAD SOLDER ALLOYS FUME FROM ROSIN-CORED SOLDER, FUME FROM SOLDER/FLUX, ROSIN-CORED LEAD-FREE SOLDER, SOLDER FUME, SOLDER WIRE CONTAINING ROSIN FREE FLUX
ICE SHEET 006A - MATERIAL FOUND IN GAS NETWORK (BELOW 2 BAR) E.G. COAL TARS, CONTAMINATED WATER - EX GAS MAINS, DEPOSITS IN GAS MAINS, DISTILLATE GAS MAINS DEPOSITS, MAINS DUST, MEG LIQUID - EX GAS MAINS, WEASEL LIQUID RESIDUES
ICE SHEET 006B - MATERIAL FOUND IN GAS NETWORK (ABOVE 2 BAR) E.G. COMPRESSOR OILS, DEPOSITS IN GAS MAINS, GAS CONDENSATE, GAS MAINS DEPOSITS, MAINS DUST, MEG LIQUID EX GAS MAINS, METHANOL - EX PIPELINE, NORM DUST, PIPELINE DUST
ICE SHEET 007 - AIRBORNE DUST FROM STREETWORK ACTIVITIES E.G. DUST FROM STREETWORKS SILICA, CONCRETE
ICE SHEET 008A - AEROSOL LUBRICATING OILS E.G. AEROSOL RELEASE OILS, WD40, CASTROL AND OTHER LUBRICANT SPRAYS, OIL RELEASE FLUID SPRAYS, OIL BASED MAINTENANCE SPRAYS, LUBE OIL SPRAYS, SILICONE LUBE SPRAYS.
ICE SHEET 008B - LIQUID LUBRICATING OILS E.G. 2 STROKE OIL, 3-IN-1 OIL, GEAR OILS, HYDRAULIC OILS, TWO STROKE OILS, ENGINE OILS, DUCK OILS, MINERAL BASED OILS, ENGINE OILS, METER OILS, FILTER OILS, PENETRATING OILS, VAL-TEX VALVE CLEANER VALVE FLUSH
ICE SHEET 008C - CUTTING OILS AND BIOCIDES ADDITIVES E.G. CUTTING COMPOUNDS, CUTTING COMPOUNDS (ROCOL), CUTTING FLUIDS,

ICE SHEET 008D - PNEUMATIC OILS E.G MIST LUBRICANTS, ANTI-FREEZE OIL, MOLE MACHINE, ATLAS COPCO AND SILILAR LUBRICATING OIL, CASTROL ANTIFREEZE, MIST LUBRICANT, AIR COMPRESSOR OILS
ICE SHEET 009 - AEROSOL DEGREASERS/DE-ICERS/CLEANERS/PAINTS E.G. AEROSOL CLEANING FLUIDS, AEROSOL DEICERS, AIR DUSTER, ANTI SEIZE FLUIDS, ANTI STATIC FOAM CLEANER, ANTI STATIC FOAM CLEANER ELECTROLUBE, CLEAR LAQUER, D PIPE FREEZER, ARTIC SPRAY, DYE PENETRANT DEVELOPERS, FURNITURE POLISH, PAINT - EASYLINE MARKING PAINT, WHITE BOARD CLEANER, SILICONE SPRAY, CONCENTRATED SOLVENT CLEANER AEROSOL, SANI-SPRAY SANITISER, WELDING ANTI SPATTER SPRAY
ICE SHEET 010 - PROTECTIVE COATINGS ON PIPELINES AND OTHER METAL WORK E.G EPOXY PIPE COATINGS, PIPE COATINGS (ALREADY APPLIED)
ICE SHEET 010A - COAL TAR BASED PROTECTIVE COATINGS ON PIPELINES AND OTHER METALWORK BITUMASTIC PIPE COATING, COAL TAR PIPE COATING, PIPE COATINGS (ALREADY APPLIED)
ICE SHEET 011 - METAL GRINDINGS GRINDING FROM METAL WORKING, METAL GRINDINGS
ICE SHEET 012 - CONTAMINATED WATER (INCLUDING CONTAMINATION BY SOLIDS) CONTAMINATED WATER
ICE SHEET 013 - METHANOL METHANOL, METHYL ALCOHOL
ICE SHEET 014 - BITUMEN MATERIALS FOR RE-INSTATEMENT E.G BITUKOLD BITUMEN COMPOUND, BITUMEN SEALER, INSTANT ROAD REPAIR, COLD PERMANENT COLD LAY, REINSTATEMENT MATERIALS (BITUMEN BASED)
ICE SHEET 015 - CEMENT (WET AND DRY MIXES) BUILDING PLASTERS, CEMENT (VARIOUS) DRYMIX CONCRETE, PREMIXED COARSE FIRE-BLOCK SEALING COMPOUND, ROUT TOP-UP KIT, GROUT KIT, LOKPIPE STANDARD GROUT KITS, PLASTER ONE-COAT, PORTLAND CEMENTS, PRE-MIX CONCRETES, AGRIMIX FINE CONCRETE, READY-MIXED CONCRETES, READY-MIXED FOAM CONCRETE, CEMENT PREMIX SLICA SAND
ICE SHEET 017A - LIQUID FUELS (PETROL) CAR UNLEADED PETROLS ICE SHEET 017B - LIQUID FUELS (DIESEL, GAS OIL) AUTOMOTIVE DIESEL FUELS, GAS OILS, DIESEL FUEL
ICE SHEET 018 - COMBUSTION PRODUCTS, FUMES COMBUSTION PRODUCTS, EXHAUST FUMES (COMBUSTION PRODUCTS) CARBON MONOXIDE MIXED GASES
ICE SHEET 019 - FOAM SEALANTS/ENCAPSULANTS (CONTAINING ISO-CYANATES) E.G BOND IT EXPANDING FOAM, ECOSEAL BASE/ACTIVATOR, EVERBUILD FILL AND FIX FOAM, GUN GRADE FOAM, FIREFOAM, ISOCYANATE FOAM SEALANTS, POLYFOAM, POLYFORM ACTIVATOR / BASES / PRECOATS / PRIMER FOAM PACK SACHETS FOAM STOP KITS FOAM-OFF PACKS, EVERBUILD FIX & FILL EXPANDING FOAM. POLYURETHANE RESIN MX-1 STEVE VICKS, MP 92 RESIN - STEVE VICKS, SERIES 6 HARDENER - ALH SYSTEMS ECOSEAL - MW POLYMERS, FLEXAPRESS PRIMER – PLCS

ICE SHEET 020A – GAS DISTILLATE (GAS CONDITIONING AGENT)
ICE SHEET 020B - MEG (METHYL ETHYLENE GLYCOL, MONOGOL) (GAS CONDITIONING AGENT) ETHYLENE GLYCOL (MEG) MEG MONO ETHYLENE GLYCOL (MEG) MONOGOL
ICE SHEET 021 - CONTAMINATED LAND CONTAMINATED LAND AND SOIL CONTAMINATION
ICE SHEET 023 - ANTIFREEZE ANTIFREEZE & COOLANTS
ICE SHEET 025 - GLUES AND RESINS SUPERGLUES, ADHESIVES, EVOSTICK CABLE JOINTING COMPOUNDS, LOCTITES COMPOUND JOINTING, NO/FORGET NAILS, GENERAL PURPOSE ADHESIVES, GLUES, RESINS, MAGIC BOND, EPOXY PUTTY (DEVCON), PERMA BOND, RS EPOXY ADHESIVES, SCREWLOCK, TERABOND EPOXYS
ICE SHEET 026 - ANAEROBIC MAINS SEALANTS ANAEROBIC MAINS SEALANTS, ANACURES
ICE SHEET 027A - FLAMMABLE GASES (COMPRESSED, LIQUIFIED OR DISSOLVED) ACETYLENE (DISSOLVED), BUTANE, HYDROGEN , METHANE, PROPANE
ICE SHEET 027B - ASPHYXIAN GAS (NON-TOXIC, NON-FLAMMABLE) COMPRESSED OR LIQUIFIED ARGON, CARBON DIOXIDE, HELIUM, NITROGEN, SULPHUR HEXAFLUORIDE, CALIBRATION GASES
ICE SHEET 027C - OXYGEN (COMPRESSED GAS)
ICE SHEET 027D - COMPRESSED AIR
ICE SHEET 028 - GREASES AND VALVE SEALANTS (INCLUDING GREASED TAPES) ALVANIA GREASE, ANTI SEIZE COMPOUND, ROCOL, COPASLIP COPPER GREASE DELTA, GREASE DENSO PASTE, DENSOCLAD TAPE, DENSYL MASTIC SILICONE, GAS COOKER TAP LUBRICANT GREASE, GEARBOX HIGH TEMP, COPPER ANTI SIEZE, LITHIUM GREASE, LUBRICANTSTICK, MOLYKOTE, ANTI-SCUFFING PASTE, ANTI SIEZE ROCOL, GREASES SILICONE, GREASE SPHEEROL, SWAGELOK TAPE GREASE, PTFE GREASED.
ICE SHEET 029 - DISTRIBUTED GAS (NATURAL GAS, METHANE, BIOMETHANES) GAS FROM NGN DISTRIBUTION SYSTEM NATURAL GAS –DISTRIBUTED, BIOMETHANES
ICE SHEET 030 - ODORANT (LIQUID AND VAPOUR) ODORANTS, ODORANT 34% IN HEXANE, ODORANT 8% IN HEXANE
ICE SHEET 031 - ASBESTOS CONTAINING MATERIALS
ICE SHEET 032 - LIQUIFIED NATURAL GAS LIQUEFIED NATURAL GAS NATURAL GAS – LIQUEFIED
ICE SHEET 033 - DISTRIBUTED GAS (PROPANE) PROPANE - DISTRIBUTED

ICE SHEET 034 - HEALTH HAZARDS (ASSOCIATED WITH INSECTS; ANIMAL DROPPINGS; FUNGAL GROWTH AND DISCARDED NEEDLES) ANIMAL BITES/SCRATCHES, ANIMAL FAECES, BIRD DROPPINGS, FUNGAL GROWTHS, INSECT BITES/STINGS NEEDLES - DISCARDED, TETANUS, WEILS DISEASE
ICE SHEET 036 - CLEANERS AND SOLVENTS GRIME CLEANER, JET WASH CLEANER, CARPET CLEANER, BLOCK PAVE CLEANER STAIL REMOVER CONCRETE MLTISOLVE PENETRATING OIL CLEANER TARMAC CLEANER GRAFFITI REMOVER LEMON ABD CITRUS BASED CLEANERS, PLUSGAS
ICE SHEET 037 – JOINTING COMPOUNDS AND SEALANTS BOSS WHITE, CEMENT, FLUE, JOINTING, ASBESTOS FREE, NON-SETTING, FLUE JOINTING COMPOUNDOS HAWK WHITE COMPOUND PLASTIC CEMENT (NON-SET) PUTTY: MOULDING FIRECEMENT
ICE SHEET 038 - PHOTOCOPIER/PRINTER TONER
ICE SHEET 039 – LEAK DETECTION FLUID
ICE SHEET 040 – LEAD METAL (VAPOUR, FUME , DUST)
ICE SHEET 041 – HIGH TEMPERATURE PIPE COATING PLASGARD 410 / VERSAPOX FAST CURING EPOXY HIGH TEMPERATURE PIPE COATING
ICE SHEET 042 – BATTERY ACID – SULPHURIC ACID
ICE SHEET 043 – COPPER SULPHATE – HALF CELL ELECTROLYTE

ICE SHEET 001 – DISINFECTANT

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Disinfectant			UN No: 1903 Class. Code: 8 Transport Cat: 2	
Activity	Disinfection, including footwear and tyres to prevent spread of agricultural diseases.				
Hazards	 Causes burns to Eyes and Skin Even dilute solutions cause severe irritation. Absorption through skin may cause poisoning.	Harmful if Swallowed causing severe sore throat, stomach ache, sickness.	Irritation of Respiratory System Coughing, irritation of the throat High levels may cause headache and nausea.		
Can react with other cleaning materials					
Precautions	 Follow advice on "Good Hygiene Practice" see Occupational Health.	 Wear Safety goggles or full face visor. "Marked B,3,4"	 Wear chemically resistant Nitrile gloves/gauntlets.	 Where risk of splashing – wear chemical resistant disposable overalls over workwear.	Where handling powder wear disposable dust mask (FFP2S). Adequate emergency facilities must be immediately available in case of personal contamination.
Storage & Transport	Drums or containers should be kept in a cool, dry, well-ventilated place (0-35°C). Store away from oxidising agents and bases (eg sodium hydroxide, bleach). Protect from accidental damage. Keep containers tightly closed when not in use. Store in original containers. Ensure load is secure and protected from damage. Where total load exceeds 333 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when no are carried). Specific driver training may be required. Suitable means for loading/off loading containers should be available.				
Re-use Re-cycling Disposal	No waste in normal use, except for empty containers which should be rinsed with water before disposal in general waste. Disposal of material should be as special waste.				
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.			Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in labelled sealable container and dispose of in general waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air. Seek medical assistance without delay.				
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.			Emergency Services: Poisonous fumes are given off if this substance is burnt if involved in a fire. Fire Extinguishers: Any may be used. Fire Fighters require breathing apparatus.	

ICE SHEET 002A - PAINTS AND TREATMENTS (WATER BASED)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Paints and Treatments (water based)			UN No: Unclassified Class. Code: Transport Cat:	
Activity	Application by brush or spray of water-based paints for protection and decoration (including storage and transportation).				
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/prolonged contact may cause dermatitis.	May cause irritation if swallowed.		
Precautions	 Follow advice on "Good Hygiene Practice" see Occupational Health.	 Avoid skin contact. Wear chemical resistant nitrile gloves/gauntlets.	 Wear protective overalls.	 Wear Safety goggles, "Marked B,3,4" if risk of eye contact.	Do not apply paint unless, adequate ventilation can be ensured. Air-fed mask or canister respirator is to be used when spraying and for brush application in confined spaces. An extraction system is required when spray-painting indoors.
Storage & Transport	Store in cool, dry, well ventilated area. Protect from frost. Keep containers tightly closed when not in use. Ensure load is secure and protected from damage. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported.				
Re-use Re-cycling Disposal	Unused material should be returned to the supplier or manufacturer. Empty containers should be disposed of according to Local Procedures. These materials must not be allowed to enter the drains, streams, rivers, lakes or ground water.				
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.			Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Dispose of spent absorbent as special waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice.				
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.			Emergency Services: Liquid Products are non-flammable. Type of extinguisher: Dry Powder, CO2, Alcohol resistant foam, Water Mist. Fire fighters should wear breathing apparatus. Fire will produce dense black smoke. Do not allow run-off from fire-fighting to enter drains or water courses.	

ICE SHEET 002B - PAINTS AND PIPE COATINGS (SOLVENT BASED) INCLUDING BITUMEN PAINTS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Paints and Pipe Coatings (solvent based) including Bitumen Paints			UN No: 1263 Class. Code: 3 Transport Cat: 3
Activity	Application by brush or spray of solvent-based paints.			
Hazards	 Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/prolonged contact may cause dermatitis.	Irritating to the Respiratory System High concentrations may cause drowsiness, headaches, sickness and may be narcotic.	Harmful if Swallowed Causing severe irritation to mouth, throat and stomach.
Vapours are flammable and heavier than air and may spread near ground to sources of ignition. Spraying significantly increases the risk of exposure - alternative methods (brushes/rollers) should be considered. A specific Risk Assessment is required when spraying and/or working in confined spaces.				
Precautions	 Avoid skin contact. Wear chemical resistant nitrile glove/gauntlets.	 Wear protective overalls.	 Wear Safety goggles, "Marked B,3,4" if risk of eye contact.	Do not breathe vapours. Do not apply paint unless, adequate ventilation can be ensured. Air-fed mask or organic vapour canister respirator is to be used when spraying and for brush application in confined spaces. An extraction system is required when spray-painting indoors. Do not use near naked flame. Do not smoke.
Storage & Transport	Store away from naked flames, other sources of ignition and heat. Store in cool, dry, well-ventilated area. Protect from direct sunlight. Keep containers tightly closed when not in use. Ensure load is secure and protected from damage. Where total exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when not required). Specific driver training may be required.			
Re-use Re-cycling Disposal	Unused material should be returned to the supplier or manufacturer. Empty containers should be disposed of according to Local Procedures. These materials must not be allowed to enter the drains, streams, rivers, lakes or ground water.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Dispose of as special waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Flammable liquid. Type of extinguisher: Dry Powder, CO2, Alcohol resistant foam, Water Mist. Do not use Water Jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 002C - PAINTS AND PIPE COATINGS (CONTAINING ISO-CYANATES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Paints and Pipe Coatings (containing iso-cyanates)			UN No: 1263 Class. Code: 3 Transport Cat: 3
Activity	Application by trowel, brush or spray of 2-part paint kits for protection of pipework (including storage and transportation).			
Hazards  	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Risk of Sensitisation by Skin Contact	Risk of Respiratory Sensitisation Shortness of breath, coughing and tightening of chest following exposure to small amounts of substance.	Harmful if Swallowed Causing severe irritation to mouth, throat and stomach.
If you have a history of respiratory problems, seek medical advice before working with these substances. Those medically classified as sensitised to isocyanates should not work with these substances.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health.	 Wear Safety goggles, "Marked B,3,4"	 Avoid skin contact. Wear chemical resistant gauntlets.	 Wear chemical resistant disposable overalls over workwear.	Do not breathe vapours. Do not mix in excavations or other confined spaces. Do not apply paint unless adequate ventilation can be ensured. Air-fed mask or organic vapour canister respirator is to be used when spraying and for brush application in confined spaces. An extraction system is required when spray-painting indoors.
Storage & Transport	Keep in a cool, dry place (5-25°C). Store away from naked flames, other sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. Ensure load is secure and protected from damage. Where total exceed 1000 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when not required). Specific driver training may be required.			
Re-use Re-cycling Disposal	Empty activator container placed in empty base/mix container and lid replaced. Put into disposal bag with other contaminated articles, and seal. Dispose of as Special Waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Place in sealable plastic bag/container. Label container with description of contents. Dispose of as special waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with resin removing cream. Then wash thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Poisonous fumes are given off if this substance is burnt or involved in a fire. Type of extinguisher: Foam, Water (Spray, Fog), Dry Powder, CO2. Fire fighters should wear breathing apparatus.	

ICE SHEET 003 - WEEDKILLERS (HERBICIDES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Weedkillers (Herbicides)				UN No: Unclassified Class. Code: Transport Cat:
Activity	Application of granular or spray weedkillers to control unwanted growth of weeds and grasses. Application should only be undertaken if strimming, hoeing, hand-pulling etc. are impractical or non-cost effective.				
Hazards  	Irritating to the Respiratory System Shortness of breath, coughing and tightening of chest.	Harmful if Swallowed Causing severe sore throat, stomach ache, sickness.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	
	Toxic to aquatic organisms	Some weedkiller are suspected of causing cancer.			
All persons using weedkiller must have successfully completed an approved training course.					
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health.	 Avoid skin contact. Wear chemical resistant nitrile gauntlets.	 Wear chemical resistant disposable overalls over workwear.	 Wear safety goggles, or visor "Marked B,3,4"	 Wear Disposable Dust Mask (FFP2SL). Do not breathe Mists or Dusts. Do not mix/fill applicator in confined space.	
Storage & Transport	Keep in special pesticide store. Protect from frost. Keep containers tightly closed when not in use. Keep records of volumes and use. Floors of the store should be impervious, easy to clean and not connected to the sewer system. The store should be locked and a key register kept. Access to store should be restricted. Ensure load is secure and protected from damage, and is transported in the original containers.				
Re-use Re-cycling Disposal	Estimates of ground coverage should be correctly calculated to ensure that the weedkiller is fully used. Unused solutions should be returned to the pesticide store and logged. Empty containers should be rinsed three times and the washing added to the spray tank. This solution should be utilised in the weed control application. Cleaned containers should be disposed of as special waste. Excess unwanted stocks should be returned to the suppliers or disposed of as special waste via a licensed waste disposal contractor to a suitable licensed waste facility. Weedkiller solutions should never be disposed of to foul sewer, river, streams, ponds or soakaways.				
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Place in closeable, correctly labelled plastic bag/container. 6. Dispose as special waste.		
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice stating weedkiller involved.				
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of extinguisher: Dry Powder, CO2, Alcohol resistant foam, water mist. Fire fighters should wear breathing apparatus. Do not allow run-off from fire-fighting to enter drains or water courses.		

ICE SHEET 004 - FUME FROM WELDING AND FLAME CUTTING

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Fume from welding and flame cutting			UN No: Not applicable Class. Code: Transport Cat:
Activity	Welding and/or flame cutting of steel, on-site or in workshops.			
Hazards	 Irritating to the Respiratory System Initial symptoms: Dryness of throat, tickling, coughing, tightening of chest and/or difficulty breathing. Delayed symptoms: Flu like illness.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes. U.V. light produced during operation may also cause 'arc-eye', with similar	Risk of burns from direct contact with hot objects or flame from exposure to UV light.	See also ICE010 & ICE010a (Pipe Coatings) and ICE040 (Lead).
Breathing fume may lead to long term breathing problems.				
Precautions	Avoid breathing fumes. Ensure good ventilation. Use fume extraction system where provided. Ensure existing protective coatings are removed from work-piece. Screen work area from passers-by.	 Wear welding visor/goggles.	 Wear welding or flame retardant gloves.	 Wear flame retardant overalls/leather apron and safety footwear.
Storage & Transport	Not applicable.			
Re-use Re-cycling Disposal	Not applicable.			
Emergency Action	Drivers Information: Not applicable.		Spillage: Not applicable.	
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. INHALATION: Remove to fresh air. Seek medical advice. BURNS: Cool affected area with cold water. Seek medical advice*			
Fire	Drivers Information: Not applicable.		Emergency Services: Type of extinguisher: (Dry Powder) should be available in the vicinity whenever welding and flame cutting is in progress.	

ICE SHEET 005A - SOLDERING FUMES AND FLUXES

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Soldering Fumes and Fluxes			UN No: Unclassified Class. Code: Transport Cat:
Activity	Joining of copper pipework using flux and propane burner to flow solder.			
Hazards	 Flux Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Skin contact may lead to sensitisation.	Flux/Fume Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Fume Irritating to the Respiratory System Inflammation, soreness of the nose and throat.	
Existing respiratory problems may be aggravated by breathing solder fume.				
Precautions	Avoid breathing fumes. Ensure good ventilation. Use fume extraction system where provided.	Avoid skin contact with flux. Use applicator to apply flux. Wash hands with soap and water after handling solder.	 Wear Safety goggles, “ Marked B,3,4 ” when risk of solder splash into eye.	 Wear flame retardant overalls and safety footwear.
Storage & Transport	Store solder and fluxes in a cool, dry area. No specific transport requirements.			
Re-use Re-cycling Disposal	No waste in normal use. Unwanted solder should be recycled for recovery of metal, otherwise follow local waste disposal procedures.			
Emergency Action	Drivers Information: Not applicable.		Spillage: Solder: Not applicable. Flux: Scrape up paste - avoid skin contact.	
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash with soap and water. Seek medical advice if irritation persists. INHALATION: Remove to fresh air. Seek medical advice.			
Fire	Drivers Information: Not applicable.		Emergency Services: Fire fighting equipment must be available when using propane burner. Suitable extinguishers for fire involving solder and/or flux: Dry Powder, CO2, water spray or foam. Do Not Use Water Jet.	

ICE SHEET 006A - MATERIAL FOUND IN GAS NETWORK (BELOW 2 BAR)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Material Found in Gas Network - Below 2 Bar For material in above 2 bar network see ICE 006b For information associated with distributed natural gas see ICE029			UN No: Dependent on composition Class. Code: Transport Cat:
Activity	Substances encountered when the gas distribution system is opened for maintenance, modifications, decommissioning/dismantling or by accident. eg. changing of gas filters, tie-in new mains, third party interference. For syphon pumping see ICE/012 (contaminated water) and/or ICE/020b (MEG)			
Hazards 	Harmful by Inhalation Shortness of breath, coughing and tightening of chest.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Possible blistering.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Some dusts may react with air to produce heat. See ICE 006b.
Gas mains on or adjacent to ex gas works sites may be contaminated with solids, liquids or sludges which could contain coal tars, phenols, cyanides, arsenic, lead, mercury and other residues which may be harmful. If encountered contact Line Manager for further assessment and advice.				
Precautions Additional Precautions are required to protect against hazards associated with gas (Asphyxiation/Fire)	 Wear disposable protective overalls (flame retardant/ antistatic) over NOMEX/ Probanised workwear	 Avoid skin contact. Wear chemical resistant nitrile gauntlets.	 Where dust is likely to be released dust masks should be worn. FFP2S.	 Wear Safety goggles. "Marked B,3,4"
Storage & Transport	Substances removed from network should be stored in suitable containers. These containers should be: 1. In good condition, suitable for purpose and labelled to identify contents. 2. Stored on impermeable ground in a controlled area to prevent spills and leakage from entering site drains (eg. Bunded or Pallet Trays). 3. Protected from accidental damage and weather. All loads should be secure. Suitable means for loading/off-loading drums should be available. Transportation of waste must be by a licensed waste carrier. Specific driver training may be required.			
Re-use Re-cycling Disposal	Do not dispose to drains. Substances identified for disposal should be appropriately labelled and considered for disposal of as Special Waste. Disposal should be via a licensed waste contractor to a suitable licensed waste facility.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Place in closable, correctly labelled plastic bag/container. 6. Dispose of as special waste. 7. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with resin removing cream. Then wash thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Avoid breathing fumes and smoke. Use suitable extinguishers (water, foam, carbon dioxide, dry powder). Fire fighters should wear breathing apparatus.	

ICE SHEET 006B - MATERIAL FOUND IN GAS NETWORK (ABOVE 2 BAR)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Material Found in Gas Network - Above 2 Bar For material in below 2 bar network see ICE 006a For information associated with distributed natural gas see ICE029			UN No: Dependent on composition Class. Code: Transport Cat:
Activity	Substances encountered when the pipeline system is opened for maintenance, modifications, decommissioning/dismantling or by accident. eg. changing of gas filters, tie-in new mains, pigging.			
Hazards  	Liquids may be Highly Flammable	Vapours and dust are Harmful by Inhalation shortness of breath, coughing and tightening of chest.	Irritating to the Skin and Eyes Skin reddening and itching. Eye inflammation, soreness, excessive watering of the eyes.	Gas Condensate may contain up to 10% Benzene which is carcinogenic (Cancer forming).
Some dusts may react with air to produce heat. This dust should be mixed with damp sand or earth and allowed to stabilise and cool before being double bagged and disposed of as below.				
Precautions Additional Precautions are required to protect against hazards associated with gas (Asphyxiation/Fire)	 Wear disposable protective overalls (flame retardant/antistatic) over NOMEX/ Probanised workwear	 Avoid skin contact. Wear chemical resistant nitrile gauntlets.	 Wear Safety goggles "Marked B,3,4"	 Where dust is likely to be released dust masks should be worn. FFP2S.
Storage & Transport	Substances removed from network should be stored in suitable containers. These containers should be: 1. In good condition, suitable for purpose and labelled to identify contents. 2. Stored on impermeable ground in a controlled area to prevent spills and leakage from entering site drains (eg. Bunded or Pallet Trays). 3. Protected from accidental damage and weather. All loads should be secure. Suitable means for loading/off-loading drums should be available. Transportation of waste must be by a licensed waste carrier. Due to flammability vehicle marking and specific driver training may be required.			
Re-use Re-cycling Disposal	Do not dispose to drains. Recover liquid waste, (ie. condensate, compressor oils and triethylene glycol) should be identified and either recycled or disposed of as Special Waste via a licensed waste contractor to a suitable licensed waste facility. Dusts should be double bagged, marked as NORM dust and treated in accordance with the NORM protocol.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Contain and absorb material with spill kit, sand or earth. 5. Dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Avoid breathing fumes and smoke. Use suitable extinguishers (Water, foam, carbon dioxide, dry powder, water fog or mist). Do not use water jets. Fire fighters should wear breathing apparatus.	

ICE SHEET 007 - AIRBORNE DUST FROM STREETWORK ACTIVITIES

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Airborne Dust from Streetwork Activities			UN No: Not applicable. Class. Code: Transport Cat:
Activity	Use of Pavement Saw, Rockdrills and Air lance for cutting and loosening surfaces and subsoil. (for dust from gas services, mains and pipelines, see ICE 006a and 006b).			
Hazards 	Irritating to the Respiratory System Coughing, irritation of the throat.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	
breathing dust will lead to long term breathing problems.				
Precautions Always consider alternative work methods to reduce/avoid generation of dust. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	Keep working area wetted during activity to reduce dust generation. Ensure dust reducing devices are used, where fitted, eg. water spray, skirts, dust cone.	 Always wear dust mask (FFP3S) when using pavement saw. When undertaking other activities, if dust cannot be controlled, wear a mask (FFP2S).	 Wear Safety goggles or visor. "Marked B,3,4". When using Air Lance, use a visor.	 Wear general handling gloves.  Wear protective overalls.
Storage & Transport	If material is collected, store in sealed container or bag. No particular transport requirements.			
Re-use Re-cycling Disposal	If material is collected, use sealed container or bag and dispose with general waste.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Should collected dust be spilled, follow precautions above for protection during clean-up.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash skin thoroughly with soap and water. INHALATION: Remove to fresh air and rest. If symptoms persist seek medical advice.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 008A - AEROSOL LUBRICATING OILS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Aerosol Lubricating Oils Other sheets: Liquid Lubricating Oils - ICE/008b; Cutting Oils - ICE/008c; Pneumatic Oils - ICE/008d			UN No: 1950 Class. Code: 3 Transport Cat: 2
Activity	Lubricating metal components using oil spray.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/ prolonged contact may cause dermatitis.	High concentrations may cause drowsiness, headaches and sickness.	Harmful if Swallowed May cause sickness, feeling unwell, drowsiness.
These substances and their vapours will give off poisonous fumes in contact with naked flames, hot or smouldering articles (eg. lighted cigarettes) or if burnt.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear disposable nitrile gloves, if prolonged skin contact cannot be avoided.	 Wear protective overalls. Do not carry oily rags in pockets. Launder overalls regularly.	 Wear Safety goggles if risk of eye contact. "Marked B,3,4"	Do not breathe vapours. Ensure adequate ventilation. Wash hands thoroughly. Do not use near naked flame. Do not smoke.
Storage & Transport	Store away from naked flames, other sources of ignition and heat. Protect from direct sunlight. Protect from frost. Maximum storage temperature 50°C (122°F). Ensure load is secure and protected from damage. Standard aerosol containers are below the requirements for labelling vehicles.			
Re-use Re-cycling Disposal	Unused material should be returned to the supplier or manufacturer. Damaged aerosols should be returned to stores for disposal as Special Waste. Empty aerosol cannister should be disposed of according to Local Procedures. Aerosol cannisters should not be punctured or burnt.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Remove leaking aerosol cannister to open air, keeping away from naked flames. Allow to empty. 4. Clean up spilt residues with spill kit, sand or earth. 5. Dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Risk of exploding cannisters. Keep fire endangered containers cool with water spray. Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam, Water Fog. Do not use Water Jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 008B - LIQUID LUBRICATING OILS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Liquid Lubricating Oils Other sheets: Aerosol Lubricating Oils - ICE/008a; Cutting Oils - ICE/008c; Pneumatic Oils - ICE/008d			UN No: Unclassified Class. Code: Transport Cat:
Activity	Liquid oils used to lubricate metal components.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/ prolonged contact may cause dermatitis.	Harmful if Swallowed May cause sickness, feeling unwell, drowsiness.	
Precautions Protect hands by use of barrier creams, after-work creams, hand cleaners/scrubs. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear chemical resistant nitrile gloves/gauntlets, if prolonged skin contact cannot be avoided.	 Wear protective overalls. Do not carry oily rags in pockets. Launder overalls regularly.	 Wear Safety goggles if risk of splashing. "Marked B,3,4"	Do not breathe vapours. Ensure adequate ventilation. Wash hands thoroughly. Do not use near naked flame. Do not smoke.
Storage & Transport	Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drum pallets) and protected from weather. Store in original containers away from naked flames, other sources of ignition, heat and strong oxidising agents. Local spill control procedures should be available. Ensure load is secure, protected from damage and transported in their original supply containers.			
Re-use Re-cycling Disposal	Empty containers (<5 litres) may be disposed of in general waste skip. Larger containers should be returned to supplier. Used lubricants should be returned to the supplier or manufacturer. Used or spoilt lubricants should be disposed of as Special Waste to a licensed waste disposal or oil reclaiming contractor. Ensure that Special Waste consignment notes are used for disposal or oil reclamation.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Clean up split residues with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and dispose of as Special Waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. VAPOUR INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam or Water Fog. (Do not use Water Jet).	

ICE SHEET 008C - CUTTING OILS AND BIOCIDES ADDITIVES

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Cutting Oils and Biocide Additives Other sheets: Aerosol Lubricating Oils - ICE/008a; Liquid Lubricants - ICE/008b; Pneumatic Oils - ICE/008d.			UN No: Unclassified Class. Code: Transport Cat:
Activity	Use of Cutting Fluids for Lubrication and cooling during cutting, drilling and grinding metal work.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Harmful if Swallowed May cause sickness, feeling unwell, drowsiness.	High concentrations of Oil Mist may cause respiratory irritation.
Precautions Protect hands by use of barrier creams, after-work creams, hand cleaners/scrubs. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear chemical resistant nitrile gloves/gauntlets.	 Wear protective overalls. Do not carry oily rags in pockets. Launder overalls regularly.	 Wear Safety goggles if risk of splashing. "Marked B,3,4"	Do not breathe vapours. Ensure adequate ventilation. Wash hands thoroughly. Do not use near naked flame. Do not smoke.
Storage & Transport	Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drum pallets) and protected from weather. Store in original containers away from naked flames, other sources of ignition, heat and strong oxidising agents. Local spill control procedures should be available. Storage temperatures 5-40°C. Ensure load is secure, protected from damage and transported in their original supply containers.			
Re-use Re-cycling Disposal	Containers should be returned to supplier. Unused oils should be returned to the supplier or manufacturer. Used or spoilt oils should be disposed of as Special Waste to a licensed waste disposal site or oil reclaiming contractor. Ensure that Special Waste consignment notes are used for disposal or oil reclamation.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Clean up spilt residues with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and dispose of as Special Waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. VAPOUR INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam or Water Fog. (Do not use Water Jet).	

ICE SHEET 008D - PNEUMATIC OILS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Pneumatic Oils Other sheets: Aerosol Lubricating Oils - ICE/008a; Liquid Lubricants - ICE/008b; Cutting Oils -ICE/008c.			UN No: Unclassified Class. Code: Transport Cat:
Activity	Use of pneumatic tools and equipment with oil lubrication.			
Hazards 	Harmful if Swallowed May cause sickness, feeling unwell, drowsiness.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/ prolonged contact may cause skin sores.	High concentrations of Oil Mist may cause breathing difficulties.
Precautions Protect hands by use of barrier creams, after-work creams, hand cleaners/scrubs. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear chemical resistant nitrile gloves/gauntlets.	 Wear protective overalls. Do not carry oily rags in pockets. Launder overalls regularly.	 Wear Safety goggles if risk of splashing. "Marked B,3,4"	Do not breathe vapours. Ensure adequate ventilation. Wash hands thoroughly. Do not use near naked flame. Do not smoke.
Storage & Transport	Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drum pallets) and protected from weather. Store in original containers away from naked flames, other sources of ignition, heat and strong oxidising agents. Local spill control procedures should be available. Ensure load is secure, protected from damage and transported in their original supply containers.			
Re-use Re-cycling Disposal	Empty containers (<5 litres) may be disposed of in general waste skip. Larger containers should be returned to supplier. Unused oils should be returned to the supplier or manufacturer. Used or spoilt oils should be disposed of as Special Waste to a licensed waste disposal site, or oil reclaiming contractor. Ensure that Special Waste consignment notes are used for disposal or oil reclamation.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Clean up split residues with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and dispose of as Special Waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. VAPOUR INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam. (Do not use Water Jet).	

ICE SHEET 009 - AEROSOL DEGREASERS/DE-ICERS/CLEANERS/PAINTS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Aerosol Degreasers/De-Icers/ Cleaners/Paints			UN No: 1950 Class. Code: 3 Transport Cat: 2
Activity	Use of aerosol spray material for cleaning of mechanical components and electrical circuit boards and connections, de-icing, providing protective coating, road marking, releasing seized parts			
Hazards	  Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	High concentrations may cause drowsiness, headaches and sickness.	Highly Flammable
Repeated/prolonged contact may degrease the skin causing dermatitis.				
Precautions	 Avoid skin contact. Wear disposable nitrile gloves, if prolonged skin contact cannot be avoided.	Do not breathe spray. Do not use near naked flame. Do not smoke.	 Wear Safety goggles if risk of eye contact. "Marked B,3,4"	Normal room ventilation is sufficient for use of small quantities.
Storage & Transport	Store away from naked flames, other sources of ignition and heat. Protect from direct sunlight. Protect from frost. Maximum storage temperature 45°C. Ensure load is secure and protected from damage. Standard aerosol containers are below requirements for labelling vehicles, however this ICE Sheet should be available whenever loads are transported.			
Re-use Re-cycling Disposal	Unused material should be returned to the supplier or manufacturer. Damaged aerosols should be returned to stores for disposal as Special Waste. Empty aerosol cannisters should be disposed of according to Local Procedures. Aerosol cannisters should not be punctured or burnt.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Use PPE as above. 2. Remove leaking aerosol cannister to open air, keeping away from naked flames. Allow to empty. 3. Clean up split residues with spill kit, sand or earth. 4. Dispose of as above. 5. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air and rest. If difficulty in breathing seek medical advice.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Risk of exploding cannisters. Keep fire endangered containers cool with water spray. Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam, Water Fog. Do not use Water Jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 010 - PROTECTIVE COATINGS ON PIPELINES AND OTHER METAL WORK

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Protective Coatings on Pipelines and other Metalwork (See ICE10a for coal tar/bitumen coatings)			UN No: Not applicable. Class. Code: Transport Cat:
Activity	Airborne particles may be produced when coated surfaces are prepared prior to repair and/or re-coating.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Respiratory System Coughing, irritation of the throat through dust inhalation.	Irritating to skin Can cause irritation to skin and burning sensation.	
Previous Paint Coatings may have contained Lead and additional controls may be required - see ICE040.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Always wear eye protection. Goggles or visor, marked "B,3,4".	 Wear dust mask. (FFP2S)	 Wear general handling gloves.	Undertake work only in well ventilated areas, or employing extraction system. For some situations, air-fed integral hood/full facemask may be required.
Storage & Transport	Not applicable.			
Re-use Re-cycling Disposal	Workshop: Collect debris and dispose of in a waste metal skip.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Spilled metal grindings should be cleaned up and disposed of in a waste metal skip. If airborne dust generation is possible wear dust mask as above.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash skin thoroughly with soap and water. SWALLOWING: Not applicable. INHALATION: Remove to fresh air and rest. If symptoms persist seek medical advice.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 010A - COAL TAR BASED PROTECTIVE COATINGS ON PIPELINES AND OTHER METALWORK

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Coal Tar Based Protective Coatings on Pipelines and other Metalwork				UN No: Not applicable Class. Code: Not applicable Transport Cat: Not applicable
Activity	Airborne particles may be produced when coated surfaces are prepared prior to repair and/or re-coating.				
Hazards 	Risk of Serious Damage to Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Respiratory System Coughing, irritation of the throat through dust inhalation. Extended exposure may cause cancer.	Irritating to Skin Burning sensation to skin which is aggravated by sunlight exposure.	May cause Irritation if Ingested. Ingestion possible via contamination of hands or food.	
Long term exposure to coal tar based protective coatings may cause skin cancer.					
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Ensure that suitable eye protection "Marked B, 3, 4" is used. This may include goggles worn under the filtered air hood.	 Positive pressure filtered air fed hood to be worn.	 Wear nitrile gloves, ensure the wrists are covered.	 Wear chemical resistant disposable overalls over workwear.	Undertake work only in well ventilated areas, or employing extraction system. Do not use any form of wire brushing, consider scraper system. Ensure material to be removed is wetted at all times. Ensure full body protection with PPE. On extended duration activities, consider the possibility of heat exhaustion.
Storage & Transport	Ensure that waste coal tar product material is secure during transportation prior to disposal.				
Re-use Re-cycling Disposal	Coal tar coating material chipped, scraped or otherwise removed from pipework must be collected, double bagged, labelled, and disposed as Special waste in accordance with Local Procedures.				
Emergency Action	Drivers Information: Not Applicable.			Spillage: Spilled coal tar material should be cleaned up (suitable PPE) and disposed of as above. If airborne dust generation is possible wear dust mask FFP2S.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash skin thoroughly with soap and water. If redness develops, seek medical advice. SWALLOWING: Unlikely, but if swallowed drink plenty of water and seek medical advice. INHALATION: Remove to fresh air, rest. If symptoms persist seek medical advice.				
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.			Emergency Services: Coal tar protective coating material will give off thick, acrid smoke when heated. Avoid breathing the smoke. Use Water, CO2, Foam, Dry powder extinguisher or sand/earth.	

ICE SHEET 011 - METAL GRINDINGS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Metal Grindings (for Cutting Fluids see ICE 008c)			UN No: Not applicable. Class. Code: Transport Cat:
Activity	Airborne metal particles are produced when metal surfaces are prepared using angle grinders, workshop grinders. These activities are generally undertaken prior to welding, soldering and during the crafting of metal articles in the workshops.			
Hazards 	Risk of Serious damage to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Respiratory System Coughing, irritation of the throat through dust inhalation.	Damage to Hearing from prolonged use if hearing protection is not used. Ringing in the ear, temporary reduction in the quality of hearing.	
Where Local Extract Ventilation is used to control dust and grinding particles weekly inspections and six-monthly examinations should be undertaken by a competent person.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Always wear eye protection. Goggles or visor, marked "B,3,4".	 Whenever dust cannot be controlled wear dust mask. (FFP2S)	 Wear general handling gloves.	Wear ear defenders for extended use.
Storage & Transport	Not applicable.			
Re-use Re-cycling Disposal	Workshop: Collect metal grindings and dispose of in a waste metal skip.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Spilled metal grindings should be cleaned up and disposed of as above. If airborne dust generation is possible wear dust mask as above.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash with soap and water. SWALLOWING: Not applicable. INHALATION: Remove to fresh air. If symptoms persist seek medical advice.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 012 - CONTAMINATED WATER INCLUDING CONTAMINATION BY SOLIDS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Contaminated Water (including contamination by solids)			UN No: Dependent on composition Class. Code: Transport Cat:
Activity	Pumping ground water from excavations, removal of water from gas mains following ingress, maintenance on and decommissioning of water sealed gas holders, or foul water encountered as leakage from sewers. For MEG see ICE/020b. Emptying of bunds is subject to specific site procedures.			
Hazards 	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Risk of infection via broken skin or by inhalation of water mist-fever, chills, headache, stomach ache, muscle stiffness.	See also ICE034
If contamination is suspected, testing will be required to determine specific hazards.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	Avoid skin contact. Wash hands before eating/drinking. All cuts and abrasions should have a water proof dressing to prevent infections.	 Wear chemical resistant nitrile gauntlets.	 If required, protect by wearing water proof overalls and wellington boots.	 Wear Safety goggles if eye contact is possible. "Marked B,3,4"
Storage & Transport	Drums and containers of contaminated water should be: 1. In good condition and labelled to identify contents, 2. Stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drums pallets). 3. Protected from accidental damage and weather. Spill control measures and the above protective equipment should be available. Ensure load is secure and protected from damage. Suitable means for loading/off loading drums should be available. No vehicle warning signs or driver training is required, however this ICE Sheet should be available whenever loads are transported. Avoid using damaged/leaking hoses/couplings when pumping contaminated water.			
Re-use Re-cycling Disposal	Dispose of contaminated water to foul sewer, with written consent/agreement from sewer operator (Water Plc.) or via waste disposal contractors to a suitable, licensed waste facility. Do not dispose of contaminated water (which also includes contamination by solids) to surface water drains, rivers, streams or lakes. Silty water not otherwise contaminated may be filtered through grassy verges with land owners permission.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. Mark roads and warn other road users or passers-by. See spillage information		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Protect drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in closed container or skip and dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Give casualty 1 pint of clean water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. INHALATION OF WATER MIST: Remove to fresh air and rest. If symptoms persist seek medical advice.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 013 – METHANOL

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Methanol			UN No: 1230 Class. Code: 3 Transport Cat: 2
Activity	Swabbing of pipelines and plant before maintenance and during commissioning to remove water and prevent hydrate formation.			
Hazards	Highly Flammable Flash Point 10°C Vapour flammable range: 6-36% in air.	Toxic by Inhalation and if Swallowed Drowsiness and/or impaired alertness. Severe exposure may cause dizziness, unconsciousness and eventual death.	Irritating to the Skin and Eyes Skin reddening, soreness and/or itching of the skin. Eye reddening, soreness, stinging, excessive watering of the eyes.	Vapour is heavier than air and will collect in confined spaces. Possibility of distant ignition.
 	If contamination is suspected, testing will be required to determine specific hazards.			
Precautions	 Wear Safety goggles. "Marked B,3,4"	Do not breathe vapours or sprays. Use in well ventilated areas. Do not use near naked flame. Do not smoke.	 Wear heavy duty chemical resistant nitrile gauntlets.	 Wear impervious protective overalls over NOMEX/ Probanised workwear. Wear wellington boots.
Storage & Transport	Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drums pallets). Store in original containers, away from naked flames other sources of ignition and heat and protected from weather. Bulk storage is in designated bunded tanks and subject to Local Procedures. Ensure load is secure and protected from damage. Delivery by road tanker or 45 gallon drums. Vehicle warning signs and specific driver training are required. If transporting where total load exceeds 333 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when not required). Specific driver training may be required.			
Re-use Re-cycling Disposal	Empty drums should be returned to supplier. Drums should not be used to store other substances. Liquids recovered should be disposed of through solvent reclamation contractor or via licensed waste disposal contractor, treated as Special Waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Ventilate area, protect drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/ container and keep away from sources of ignition. Dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash immediately with soap and water. SWALLOWING: Give casualty 1 pint of clean water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air and rest. If symptoms persist seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Highly Flammable Liquid. Use Suitable Extinguishers (foam, carbon dioxide, dry powder). Fire fighters should wear breathing apparatus.	

CE SHEET 014 - BITUMEN MATERIALS FOR RE-INSTATEMENT

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Bitumen Materials for Re-instatement (for bitumen paints see 002b)			UN No: Unclassified Class. Code: Transport Cat:
Activity	Repair and sealing of road surfaces after reinstatement of excavation.			
Hazards  	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Flammable/Highly Flammable	Harmful if Swallowed causing severe irritation to mouth, throat and stomach. Risk of permanent damage.
Narcotic effects possible through inhalation of vapours, swallowing or absorption through skin.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear chemical resistant nitrile gloves/gauntlets.	 Wear protective overalls and safety footwear.	 Wear Safety goggles where eye contact is likely. "Marked B,3,4"	Do not breathe vapours. Ensure adequate ventilation. Wash hands using soap and water after using substance (do not use solvents).
Storage & Transport	Keep in a cool, dry place. Store away from naked flames, sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. No vehicle warnings signs or specific driver training is required, however this ICE Sheet should be available whenever loads are transported.			
Re-use Re-cycling Disposal	No waste in normal use. Unused hardened bituminous materials are inert and should be disposed of at licensed waste disposal sites.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Use PPE as above. 2. Ventilate area, protect drains. 3. Absorb spillage with spill kit, sand or earth. 4. Collect spent absorbent in plastic bag/ container. Dispose of as special waste. 5. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash immediately with soap and water. SWALLOWING: Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Highly Flammable Liquid. Use Suitable Extinguishers (foam, carbon dioxide, dry powder). Fire fighters should wear breathing apparatus.	

ICE SHEET 015 - CEMENT (WET AND DRY MIXES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Cement - Wet and dry mixes			UN No: Unclassified Class. Code: Transport Cat:
Activity	Construction of concrete structures using Ready Mixed Concrete and Dry Powder Mixes (including foam concrete).			
Hazards	 Irritating to the Skin (wet and dry) Skin reddening, soreness and/or itching of the skin.	Risk of damage to Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating by Inhalation (Dust) Irritation and/or inflammation of the mouth and throat, soreness, coughing.	
Prolonged skin contact may lead to dermatitis.				
Precautions	 Wear chemical resistant nitrile gauntlets.	 Wear Safety goggles if eye contamination possible. "Marked B,3,4"	 Wear protective overalls and safety footwear/wellingtons.	 Dust mask should be worn when sweeping up spills of dry cement. FFP2S.
Storage & Transport	Dry bags of cement should be stacked in a safe and stable manner, protected from the weather and kept dry. Wear protective gloves when handling bags as they often have a small amount of cement on the outer surface. Ensure load is secure and protected from damage. Bags are heavy, be aware of manual handling risks.			
Re-use Re-cycling Disposal	No waste in normal use. Do not dispose of surplus cement or slurry to drains. Dispose of empty cement bags to general waste skips in line with local procedures. Part-used or spoiled grout kits should be fully reacted and disposed of in general waste skips in line with local procedures.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Use PPE as above. 2. Spillage cement should be swept up, placed back into supply bags or disposed of in line with local procedures. Cement can be slurried by addition of water but will set as a hard material.	
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash immediately with soap and water. Seek medical advice. SWALLOWING: Wash out mouth with plenty of water and give casualty plenty water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Seek medical advice.			
Fire	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 017A - LIQUID FUELS (PETROL)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Liquid Fuels - Petrol			UN No: 1203 Class. Code: 3 Transport Cat: 2
Activity	Handling of hydrocarbon fuels to re-fuel mobile plant and equipment.			
Hazards	 Extremely Flammable (Flash Point - 40°C)	Harmful by Inhalation Sickness, dizziness, headaches, persons exposed to high concentrations of vapour may display drunken behaviour.	Risk of damage to Skin/Eyes Skin reddening and itching, skin sores. Eye reddening, soreness, stinging, excessive watering of the eyes.	Petrol contains carcinogens (cancer forming chemicals).
Never use petrol to degrease appliances, workpieces or clean hands.				
Precautions	 Avoid skin contact. Wear disposable nitrile gloves.	 Wear Safety goggles if eye contamination is possible. "Marked B,3,4"	Eliminate all sources of ignition when handling fuels. Do not smoke.	Never attempt to syphon fuels by sucking the liquid up a tube by mouth.
Storage & Transport	Store in appropriate, approved containers away from sources of heat and ignition. Containers should be protected from accidental damage and weather during storage. Ensure load is secure and protected from damage when transporting. Petrol must only be transported in appropriate, approved containers. Where total load exceeds 333 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when not required). Specific driver training may be required.			
Re-use Re-cycling Disposal	Do not dispose to drains. Contaminated fuel should be identified, appropriately labelled and disposed of as Special Waste. Disposal should be via a licensed waste contractor to a suitable licensed waste facility.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Ventilate area, protect drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and keep away from sources of ignition. Dispose of as special waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager. Spillage of petrol in confined space can rapidly produce an explosive atmosphere. Take suitable precautions to prevent ignition eg. extinguish naked lights, cigarettes.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty plenty water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. INHALATION: Remove to fresh air, if breathing has stopped administer artificial respiration, give cardiac massage if necessary. Obtain medical advice.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Highly Flammable Liquid: Use suitable extinguishers (Large Fire: Foam, Water Fog, Small Fire: Foam, Dry Powder, AFFF, CO2, sand or earth). Do not use water jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 017B - LIQUID FUELS (DIESEL, GAS OIL)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Liquid Fuels - Diesel, Gas Oil			UN No: 1202 Class. Code: 3 Transport Cat: 3
Activity	Handling of hydrocarbon fuels to re-fuel mobile plant and equipment.			
Hazards  	Diesel: Flash Point > 56°C	Harmful by Inhalation Sickness, dizziness, headaches, persons exposed to high concentrations of vapour may display drunken behaviour.	Risk of damage to Skin/Eyes Skin reddening and itching, skin sores. Eye reddening, soreness, stinging, excessive watering of the eyes.	
Never use diesel fuel to degrease appliances, workpieces or clean hands.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear disposable nitrile gloves.	 Wear Safety goggles if eye contamination is possible. "Marked B,3,4"	Eliminate all sources of ignition when handling fuels. Do not smoke.	Never attempt to syphon fuels by sucking the liquid up a tube by mouth.
Storage & Transport	Store in appropriate, approved containers away from sources of heat and ignition. Drums of diesel should be stored on impermeable ground in a controlled area to prevent spills and leakage from entering site drains or contaminating land (Bunds or Drum Spill Pallet). Drums should be protected from accidental damage and weather. Ensure load is secure and protected from damage. Where total exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when not required). Specific driver training may be required.			
Re-use Re-cycling Disposal	Do not dispose to drains. Contaminated fuel should be identified, appropriately labelled and disposed of as Special Waste. Disposal should be via a licensed waste contractor to a suitable licensed waste facility.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Ventilate area, protect drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and keep away from sources of ignition. Dispose of as special waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty plenty water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. INHALATION: Remove to fresh air, if breathing has stopped administer artificial respiration, give cardiac massage if necessary. Obtain medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Use suitable extinguishers (Large Fire: Foam, Water Fog, Small Fire: Foam, Dry Powder, AFFFA, CO2, sand or earth). Do not use water jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 018 - COMBUSTION PRODUCTS, FUMES

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Combustion Products, Fumes			UN No: Not applicable. Class. Code: Transport Cat:
Activity	1. Undertaking streetworks affected by traffic fumes or mobile plant exhaust. 2. Working in vicinity of Water-bath antifreeze heaters. 3. Attending premises where gas appliances affected by incomplete combustion or inadequate removal of products of combustion.			
Hazards	Combustion products include carbon monoxide (CO), carbon dioxide (CO2), oxides of nitrogen (NOx) and particulates (PM10), depending on fuel and type of engine/appliance.	Toxic by Inhalation High concentrations of CO can be rapidly fatal. Lower levels may cause headaches, nausea, dizziness, drowsiness. Particularly at risk are old, young, pregnant, and those with cardio-vascular problems. Continual breathing of excessive exhaust fume may lead to cancers.	Irritating to the Respiratory System Coughing, irritation of the throat, tightening of chest. May aggravate pre-existing respiratory problems.	
				
Combustion products may build up in confined spaces.				
Precautions	Follow Codes of Practice, Transco NGN Procedures. Those attending fuming gas appliance must follow EM71.	Ensure adequate ventilation. Mobile petrol/diesel/LPG fuelled equipment must not be used in confined spaces.	Equipment must be regularly serviced and maintained. Gas appliances and installation must be regularly serviced.	Position mobile plant away from work area. Ensure exhausts of plant and equipment are directed away from personnel.
Storage & Transport	Not applicable.			
Re-use Re-cycling Disposal	Not applicable.			
Emergency Action	Drivers Information: Not applicable.		Spillage: In the event of spillage of combustion products from gas appliances, the gas supply should be shut off and the area ventilated by opening doors and windows. Properties should not be re-entered for 15 minutes. Appliances must not be used until checked by CORGI Registered Engineer.	
First Aid	INHALATION: Remove to fresh air, rest and keep warm. Seek medical attention without delay. Perform artificial respiration if breathing has stopped.			
Fire	Drivers Information: Not applicable.		Emergency Services: Not applicable.	
				

ICE SHEET 019 - FOAM SEALANTS/ENCAPSULANTS (CONTAINING ISO-CYANATES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Foam Sealants/Encapsulants (containing iso-cyanates)			UN No: 2206 Class. Code: 6.1 Transport Cat: 3
Activity	Use of 2-part kits or aerosol cannister for sealing of annular spaces following pipeline insertions, foam bagging operations, sealing of services, flow stop in abandoned mains leakage control by encapsulation.			
Hazards   PRIMER ONLY	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Risk of Respiratory Sensitisation Shortness of breath, coughing and tightening of chest following exposure to small amounts of substance.	Harmful if Swallowed causing severe sore throat, stomach ache, sickness.
If you have a history of respiratory problems, seek medical advice before working with these substances. Those medically classified as sensitised to isocyanates should not work with these substances.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Wear Safety goggles, "Marked B,3,4"	 Wear nitrile disposable gloves. Dispose of after single use.	 Wear chemical resistant disposable overalls over NOMEX/Probanised workwear.	Do not Breathe Vapours. Do not mix kits in excavations or other confined spaces unless, adequate ventilation can be ensured or BA used. Do not use if temperature patch shows out of safe range.
Storage & Transport	Keep in a cool, dry place (5-25°C). Store away from naked flames, sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. Damaged or part used kits should not be kept on vans. Inspect bulk loads prior to transport. Ensure load is secure and protected from damage. Where total load exceeds 1000 litres orange panel are required to be displayed at the front and rear of vehicle. (remove orange panels when no cylinders are carried). Specific driver training may be required.			
Re-use Re-cycling Disposal	Out of date kits should be disposed of as Special Waste or returned to supplier by arrangement. Used kits should be sealed in plastic bags provided in kit and returned to depot for assessment and disposal in accordance with local procedures. Part used kits should be allowed to cure and disposed of as above. Spent aerosol containers should be returned to depot for disposal.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in sealable container (plastic bag/container) Label container with description of contents. Dispose through waste system at depot. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing and wash contaminated skin with resin removing cream. Then wash thoroughly with soap and water. SWALLOWING: Wash mouth with water. If conscious, give casualty water to drink. Seek medical advice. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Refer to hospital immediately.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Poisonous fumes given off if this substance is burnt or involved in a fire. Fire Extinguisher: Foam, Water Fog, Dry Powder, CO2. Do not use water jet. Note: Primers are highly flammable.	

ICE SHEET 020A – GAS DISTILLATE (GAS CONDITIONING AGENT)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Distillate (Gas Conditioning Agent)			UN No: 1268 Class. Code: 3 Transport Cat: 3
Activity	Transport and handling of Distillate for use in gas conditioning, by introduction into gas stream via fixed installations (foggers or vapourisers) or by direct spraying.			
Hazards  	Flammable Liquid	Harmful by Inhalation Sickness, dizziness, headaches, persons exposed to high concentration of vapour may display drunken behaviour.	Irritating to the Skin/Eyes Skin reddening, soreness and/or itching of the skin. Eye reddening, soreness, stinging, excessive watering of the eyes.	Extremely Harmful to the Environment
Never use distillate to degrease appliances, workpieces or clean hands.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear nitrile gloves.	 Wear Safety goggles, "Marked B,3,4"	Eliminate all sources of ignition when handling. Do not smoke.	 Wear protective overalls.
Storage & Transport	Store in appropriate, approved containers away from sources of heat and ignition. Drums should be stored on impermeable ground in a controlled area to prevent spills and leakage from entering site drains or contaminating land (bunds or Drum Spill Pallet). Drums should be protected from accidental damage and weather. Ensure load is secure and protected from damage. Where total load exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when no containers are carried). Specific driver training may be required.			
Re-use Re-cycling Disposal	Do not dispose to drains. Disposal should be via a licensed waste contractor to a suitable licensed waste facility.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in closed container or skip and dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. INHALATION: Remove to fresh air, if breathing has stopped administer artificial respiration, give cardiac massage if necessary. Obtain medical attention.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Use suitable extinguisher: (Large Fire: Foam, Water Fog, Small Fire: Foam, Dry Powder, AFFF, CO2, sand or earth). Do not use Water Jet. Fire fighters should wear breathing apparatus.	

ICE SHEET 020B - MEG (METHYL ETHYLENE GLYCOL, MONOGOL) (GAS CONDITIONING AGENT)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	MEG (Ethylene glycol, Monogol) (Gas Conditioning Agent)			UN No: Unclassified Class. Code: Transport Cat:
Activity	Transport and handling of MEG for use in gas conditioning, by introduction of MEG into gas stream via fixed installations (foggers or vapourisers) or by direct spraying or pouring into mains.			
Hazards 	Harmful if Swallowed May cause stomach cramps and/or sickness. (One cup full may be fatal).	Irritating to Respiratory System Coughing, irritation of the throat.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Irritating to the Eyes Inflammation, soreness, and/or excessive watering of the eyes.
MEG is very toxic if inhaled as spray/mist - DO NOT test fogger heads by discharging into atmosphere.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Wear Safety goggles "Marked B,3,4"	Do not breathe vapours or sprays. Before commencing work allow vapouriser to cool.	 Wear disposable nitrile gloves.	 Wear protective overalls.
Storage & Transport	Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drum pallets). Store in original containers, away from naked flames, other sources of ignition and heat protected from weather. Bulk storage should be in designated bunded tanks. Delivery will be by road tanker or 45 gallons drums. No vehicle warning signs or specific driver training is required, however this ICE Sheet should be available whenever loads are transported. Ensure load is secure and protected from damage. All drums should have suppliers chemical identification labels. Suitable means for loading/off loading drums should be available.			
Re-use Re-cycling Disposal	No waste in normal use. Empty drums should be returned to manufacturer. Drums should not be used to store other substances. Liquids recovered from mains (see ICE/6 and ICE/012) suspected of containing MEG should be tested for MEG content to establish whether the material can be re-used, sent for reprocessing or requires disposal. Disposal should be via licensed waste disposal contractor. Above 25% MEG should be treated as Special Waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Follow local spill procedure. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in closed container or skip and dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, advise police.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. DO NOT MAKE THE CASUALTY VOMIT. If conscious, give casualty water to drink. Seek immediate medical attention. INHALATION: Move subject to fresh air. Refer to hospital immediately.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Irritant fumes given off if burnt. Avoid breathing fumes and smoke. Suitable extinguishers (water fog, alcohol resistant foam, carbon dioxide, dry powder) Flash Point 116°C.	

ICE SHEET 021 - CONTAMINATED LAND

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Contaminated Land (for contaminated water see ICE 012)			UN No: Dependent on composition Class. Code: Transport Cat:
Activity	Excavation and other activities on contaminated land may lead to exposure to a variety of subsatnces - as solids, dusts, liquids, sludges and gases.			
Hazards - Typical Hazards will vary according to nature of contamination.	Irritating to the Eyes Eyes reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/prolonged contact may cause dermatitis.	Irritating to Respiratory System Inhalation may cause drowsiness, headaches, sickness.	May cause irritation if Swallowed.
Contact with tarry materials may lead to cancer.				
Precautions - additional precautions may be required in specific circumstances. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear nitrile gloves/gauntlets.	 Wear protective overalls and safety footwear/wellington boots.	 If risk of eye contact, wear Safety goggles "Marked B,3,4"	Follow Local Procedures, Work Instructions and Site Rules. Reduce dust production by damping, speed limits. If dust levels cannot be reduced dust masks may be specified.
Storage & Transport	Store excavated material so that it cannot contaminate water courses or release windborne dust, eg use covered skips. When transporting, ensure load is secure and covered. Specific vehicle marking and driver training may be required.			
Re-use Re-cycling Disposal	Contaminated spoil should not be used as back-fill material. If heavily contaminated, it may have to be disposed of as special waste. Must not be allowed to enter drains, streams, rivers, lakes or ground water.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate area. 3. Cover drains etc. 4. Contain and absorb material with spill kit, sand or earth. 5. Dispose of spent absorbent as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air and rest. Seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Fire fighters should wear breathing apparatus. Do not allow run-off from fire-fighting to enter drains or water courses.	

ICE SHEET 023 - ANTIFREEZE

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Antifreeze (Type A, B and C)			UN No: Unclassified Class. Code: Transport Cat:
Activity	Antifreeze is added to water systems that are exposed to low temperatures to prevent freezing. Antifreeze may be encountered during maintenance on water-bath heaters, re-circulating frost protection systems on water sealed gas holders and motor vehicle coolant systems.			
Hazards 	Harmful if Swallowed May cause stomach cramps and/or sickness. (One cup full may be fatal).	Irritating to the Skin Prolonged contact may produce reddening, soreness and/or itching of the skin.	Irritating to the Eyes Inflammation, soreness and/or excessive watering of the eyes.	
Adequate emergency washing/shower facilities must be immediately available in case of personal contamination.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Wear safety goggles "Marked B,3,4"	 Wear chemical resistant (nitrile) gloves.	 Wear protective overalls and safety footwear.	Do not use hoses or fittings which show signs of damage, wear or leakage.
Storage & Transport	Drums or containers should be in good condition and correctly labelled, positioned on impermeable ground away from site drainage and protected from accidental damage, weather and direct sunlight. Ensure load is secure and protected from damage. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported. Suitable means for loading /off loading drums should be available.			
Re-use Re-cycling Disposal	Do not dispose to surface water drains. Re-use surplus solutions in other systems whenever possible, (take care not to mix types A, B and C). Dispose via recognised waste disposal contractors to a suitable, licensed waste facility. Antifreeze solutions for disposal greater than 25% glycol are special waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent for disposal via a licensed waste disposal contractor. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Irritant fumes given off if burnt. Avoid breathing fumes and smoke. Suitable extinguishers (water fog, alcohol resistant foam, carbon dioxide, dry powder). Flash Point 116°C.	

ICE SHEET 024 - BLEACH (SODIUM HYPOCHLORITE SOLUTION)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Bleach (Sodium Hypochlorite Solution)			UN No: 1791 Class. Code: 8 Transport Cat: 2
Activity	Disinfection of water systems to prevent microbiological contamination. Note: bleach is also employed as odour neutralising agent in event of spillage of Odorant - see ICE/030			
Hazards	 Causes burns to Eyes and Skin Even dilute solutions cause severe irritation.	Harmful if Swallowed causing severe sore throat, stomach ache, sickness.		
Reacts with acids (including other cleaning materials) to release toxic Chlorine gas				
Precautions	 Wear safety goggles or full face visor. "Marked B,3,4"	 Wear chemical resistant heavy duty nitrile gloves/gauntlets.	 Wear protective overalls.	Adequate emergency shower facilities must be immediately available in case of personal contamination. Avoid forming a mist.
Storage & Transport	Drums or containers should be kept in a cool, dry, well-ventilated place (0-35°C). Store away from acids, protect from accidental damage. Keep containers tightly closed when not in use. Store in original containers. Ensure load is secure and protected from damage. Where total load exceeds 333 litres orange panels are required to be displayed at front and rear of vehicle. (remove orange panels when no containers are carried). Specific driver training may be required. Suitable means for loading /off loading drums should be available.			
Re-use Re-cycling Disposal	No waste in normal use, except for empty containers which should be rinsed with water before disposal in general waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent for disposal via a licensed waste disposal contractor. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, advise police.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Seek medical assistance without delay.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Poisonous fumes are given off if this substance is burnt or involved in a fire. Fire Extinguishers: Any may be used. Fire fighters require breathing apparatus.	

ICE SHEET 025 - GLUES AND RESINS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Glues and Resins			UN No: 1263 Class. Code: 3 Transport Cat: 3	
Activity	Application of glues and resins to secure and seal components.				
Hazards	 SOME PRODUCTS	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/prolonged contact may cause dermatitis.	Irritating to the Respiratory system High concentrations may cause drowsiness, headaches, sickness and may be narcotic.	May cause irritation if Swallowed
Some products may cause sensitisation.					
Precautions	Follow instructions for individual products. Avoid skin contact. Use appropriate applicators wherever possible.	 Where prolonged or repeated skin contact, use nitrile gloves.	 If risk of eye contact, wear safety goggles. "Marked B,3,4"	Avoid sources of ignition. No smoking. Use in a well-ventilated area with extraction equipment when prolonged use.	
Storage & Transport	Store away from naked flames, other sources of ignition. Keep in a cool, well-ventilated area. Store in original containers between 5°C and 25°C. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported.				
Re-use Re-cycling Disposal	Unused material should be returned to the supplier or manufacturer. Empty containers should be disposed of according to Local Procedures. These materials must not be allowed to enter drains, streams, rivers, lakes or ground water.				
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark road and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. ventilate. 2. Use PPE as above. Evacuate spill area. 3. Cover drains etc. 4. Contain and absorb spill with spill kit, sand or earth. 5. Dispose of spent absorbent as above.		
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. If eyes bonded - do not pull apart. Cover with wet pad (warm water). SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. Ensure breathing not obstructed. VAPOUR INHALATION: Remove to fresh air and rest. Seek medical advice.				
Fire	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of extinguishers: Foam, CO2. Fire fighters require breathing apparatus.		

ICE SHEET 026 - ANAEROBIC MAINS SEALANTS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Anaerobic Mains Sealants			UN No: Unclassified Class. Code: Transport Cat:
Activity	Sealing of joints on gas mains by external injection and internal spraying.			
Hazards	 Irritating to the Eyes Inflammation, soreness, stinging, excessive watering of the eyes.	Irritating to the Respiratory system Coughing, irritation of the throat.	Irritating to the Skin Reddening, soreness and/or itching of the skin. May cause skin sensitisation.	
Adequate emergency washing/shower facilities must be immediately available in case of personal contamination.				
Precautions	 Wear safety goggles "Marked B,3,4"	 Disposable Protective Overalls (flame-retardant/anti-static) worn over NOMEX/ Probanised workwear.	 Spraying: Heavy duty nitrile gloves/gauntlets. Always use new gloves for each spraying operation. Injection Kit: Nitrile Gloves, as supplied.	Follow advice on NGN "Good Hygiene Practice" card.
Storage & Transport	Store in a cool, dry place, (5 to 25°C). Containers of sealant for spraying operations should be stored on a sealed surface away from drains and protected from direct sunlight. All loads should be secured. Used kits should be double bagged, sealed and returned to depot. Keep on vehicle for minimum length of time. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported.			
Re-use Re-cycling Disposal	Out of date kits should be disposed of as Special Waste or returned to supplier by arrangement. Used kits should be assessed at depot and handled according to local procedures. When disposed of, treat as Special Waste. Washings from spray operations and empty containers should be collected by the supplier.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above, breathing apparatus should be used when clearing up significant spills. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in a labelled sealable container and dispose of as above. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Seek medical assistance without delay.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of Extinguishers: Dry Powder, CO2, Foam, Water Spray. Poisonous fume given off when burnt. Avoid breathing fumes and smoke. Firefighters require breathing apparatus.	

ICE SHEET 027A - FLAMMABLE GASES (COMPRESSED, LIQUIFIED OR DISSOLVED)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Flammable Gases - Compressed, Liquefied or Dissolved			UN No: see list Class. Code: Transport Cat: 2
Activity	Transportation and Handling of Gas Cylinders.			
Hazards	 Extremely Flammable May form explosive mixture with air.	High concentrations may cause asphyxiation. Symptoms may include loss of mobility and/or consciousness.	Heating of containers may cause bursting and/or explosion, particularly of liquefied gases.	Contact with Liquefied Gas can cause skin burns and severe damage to eyes.
Identified by Cylinder Label - gas may be colourless and odourless.				
Precautions	 Wear General Handling Gloves.	 Wear safety goggles "Marked B,3,4"	Wear Protective Footwear.	Do not use near naked flame. Do not smoke.
Storage & Transport	Store away from naked flames, other sources of ignition and heat (including static discharges). Keep below 50°C in a well ventilated place. Only transport in vehicles where load space is separate from driver's compartment. Where total load exceeds 333 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when no cylinders are carried). Specific Driver training may be required.			
Re-use Re-cycling Disposal	Do not discharge into areas where risk of forming explosive or asphyxiant atmosphere. Contact supplier for disposal guidance. Return empty cylinders to supplier.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above, ventilate area. 3. Cover drains, evacuate basements. 4. For liquefied gases, contain with sand or earth, allow to evaporate. 5. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. INHALATION: Remove to fresh air, keep warm and rested. Seek medical assistance without delay.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Risk of exploding cylinders. Keep fire endangered cylinders cool with water spray. Do not extinguish a leaking gas flame unless possible to shut off at the source - possibility of re-ignition. Extinguish any other fire. Any Fire fighters should wear breathing apparatus.	

ICE SHEET 027B - ASPHYXIAN GAS (NON-TOXIC, NON-FLAMMABLE) COMPRESSED

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Asphyxiant Gas (non-toxic, non-flammable) - Compressed or Liquefied			UN No: see list Class. Code: Transport Cat: 3
Activity	Transportation and Handling of Gas Cylinders.			
Hazards	High concentrations may cause asphyxiation. Symptoms may include loss of mobility and/or consciousness.	Contact with Liquefied Gas can cause skin burns and severe damage to eyes.	Heating of containers may cause bursting and/or explosion, particularly of liquefied gases.	
Identified by Cylinder Label - gas may be colourless and odourless.				
Precautions	 Wear General Handling Gloves.	 Wear safety goggles "Marked B,3,4"	Wear Protective Footwear.	
Storage & Transport	Store away from naked flames and heat. Keep below 50°C in a well ventilated place. Only transport in vehicles where load space is separate from driver's compartment. Where total load exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when no cylinders are carried). Specific Driver training may be required.			
Re-use Re-cycling Disposal	Do not discharge into areas where risk of forming asphyxiant atmosphere. Contact supplier for disposal guidance. Return empty cylinders to supplier.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above, ventilate area. 3. Cover drains, evacuate basements. 4. For liquefied gases, contain with sand or earth, allow to evaporate. 5. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. INHALATION: Remove to fresh air. Seek medical assistance without delay.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Risk of exploding cylinders. Keep fire endangered cylinders cool with water spray. Type of Extinguisher: Any. Any Fire fighters should wear breathing apparatus.	

ICE SHEET 027C - OXYGEN (COMPRESSED GAS)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Oxygen - Compressed Gas			UN No: 1072 Class. Code: 2.2 Transport Cat: 3
Activity	Transportation and Handling of Gas Cylinders.			
Hazards	 High concentrations may cause asphyxiation. Symptoms may include loss of mobility and/or consciousness.	Strongly supports combustion. Greatly increases fire risk - Materials ignite more readily and burn furiously.	Reacts with oil and greases causing explosion and fire.	Heating of containers may cause bursting and/or explosion.
Identified by Cylinder Label - gas may be colourless and odourless.				
Precautions	 Wear General Handling Gloves.	 Wear safety goggles "Marked B,3,4"	Wear Protective Footwear.	Use no oil or grease. Do not use near naked flame. Do not smoke.
Storage & Transport	Store away from naked flames and heat and ignition sources (including static discharges). Keep below 50°C in a well ventilated place. Store away from flammable gases and other flammable materials. Only transport in vehicles where load space is separate from driver's compartment. Where total load exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when no cylinders are carried). Specific Driver training may be required.			
Re-use Re-cycling Disposal	Do not discharge into areas where accumulation could be dangerous. Contact supplier for disposal guidance. Return empty cylinders to supplier.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above, ventilate area. 3. Cover drains, evacuate basements. 4. Shut off leaks, if possible. 5. Inform line manager immediately.	
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. INHALATION: Remove to fresh air, keep warm and rested. Seek medical assistance without delay.			
Fire	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Greatly increases fire risk - materials ignite more readily and burn furiously. Risk of exploding cylinders. Keep fire endangered cylinders cool with water spray. Extinguish any other fire. Type of Extinguisher: Any. Any Fire fighters should wear breathing apparatus.	

ICE SHEET 027D – COMPRESSED AIR

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Compressed Air			UN No: 1002 Class. Code: 2.2 Transport Cat: 3
Activity	Transportation and Handling of Gas Cylinders.			
Hazards	Contents not hazardous, but stored under pressure.	Non flammable, but supports combustion.	Heating of containers may cause bursting and/or explosion.	
Precautions	 Wear General Handling Gloves.	 Wear safety goggles “Marked B,3,4”	Wear Protective Footwear.	
Storage & Transport	Store away from naked flames and heat. Keep below 50°C in a well ventilated place. Only transport in vehicles where load space is separate from driver’s compartment. Where total load exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (Remove orange panels when no cylinders are carried). Specific Driver training may be required.			
Re-use Re-cycling Disposal	Contact supplier for disposal guidance. Return empty cylinders to supplier.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above, ventilate area. 3. Cover drains, evacuate basements. 4. For liquefied gases, contain with sand or earth, allow to evaporate. 5. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. INHALATION: Remove to fresh air, keep warm and rest. Seek medical assistance without delay.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Risk of exploding cylinders. Keep fire endangered cylinders cool with water spray. Extinguish any other fire. Any Fire fighters should wear breathing apparatus.	

ICE SHEET 028 - GREASES AND VALVE SEALANTS (INCLUDING GREASED TAPES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Greases and Valve Sealants (including greased tapes)			UN No: Unclassified Class. Code: Transport Cat:
Activity	Application of lubricant to moving metal parts to prevent seizing, and re/packaging of valve parts to prevent leakage.			
Hazards 	Irritating to the Skin Reddening, soreness and/or itching of the skin. Repeated or prolonged skin contact may cause dermatitis.	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Harmful if Swallowed May cause stomach cramps and/or sickness, feeling unwell.	
Repeated/prolonged contact with some greases may cause the development of an allergic skin reaction.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear General Handling Gloves where practical.	 Wear protective overalls	Protect hand by use of barrier creams, after-work creams, hand cleaners/scrubs. Wash hands thoroughly. Do not use solvents to clean skin.	Do not use near naked flame. Do not smoke. Where application is by grease gun, never direct nozzle at skin.
Storage & Transport	Store in a cool dry place. Store away from naked flames, sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported.			
Re-use Re-cycling Disposal	Empty containers and soiled rags should be disposed of according to local waste procedures.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Use PPE as above. 2. Scrape up and collect spilt grease in closed container or plastic bag. 3. To prevent slips, cover spillage area with sand. 4. Dispose of as above.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Unlikely, DO NOT MAKE THE CASUALTY VOMIT. GREASE GUN INJURY: Seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Poisonous fumes may be given off if substance is burnt or involved in a fire. Type of Extinguisher: Dry Powder or Carbon Dioxide. (Do Not Use Water).	

ICE SHEET 029 - DISTRIBUTED GAS (NATURAL GAS, METHANE, BIOMETHANE)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Distributed Gas (Natural Gas, Methane)			UN No: 1971 Class. Code: 2.1 Transport Cat: 2
Activity	1. Emergency situations involving leakage of gas from distribution system. 2. Maintenance operations on gas network involving release of gas (eg. venting, purging).			
Hazards 	Extremely Flammable Flammability limits: 5-15% gas in air	Risk of Asphyxiation Presence of gas in atmosphere will reduce oxygen levels. May result in unconsciousness and death.	At lower concentrations, may cause headaches, dizziness, drowsiness, nausea and vomiting.	Gas at pressure. Pressure varies depending on part of network involved.
Care must be taken to ensure adequate ventilation and/or flueing of gas burning appliances to remove combustion products. See ICE018.				
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Wear NOMEX/Probanised workwear (or Nomex Fire Suit where required by procedures and risk assessment).	 Wear Breathing Apparatus where required by procedures and risk assessment.	Ensure good ventilation. Eliminate all heat, flames, sources of ignition and static discharges. Do not smoke.	
Storage & Transport	Subject to NGN Codes of Practice and Procedures. Eliminate all heat, flames, sources of ignition and static discharges. Transportation by pipeline is subject to Regulation, NGN Codes of Practice and procedures.			
Re-use Re-cycling Disposal	Discharges to atmosphere must be reduced to as low as practical, eg. by reporting and preventing leakage, reducing pressures before venting and purging.			
Emergency Action	Drivers Information: Not applicable.		Spillage: In the event of leakage, gas supply should be shut off and area ventilated - subject to local procedures. To report gas escapes: 0800 111 999. Do not turn electrical switches on or off. Eliminate other sources of ignition. Immediately inform line manager.	
First Aid 	INHALATION: Consider risks to own safety before attempting rescue of affected person. Remove casualty to fresh air, rest and keep warm. Get prompt medical attention. Perform artificial respiration if breathing has stopped.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Extremely flammable gas. Flammability range 5-15%. Type of Extinguisher: Water spray, fog or mist, Foam, Dry Powder or Carbon Dioxide. Where possible, shut off gas supply. Gas may re-ignite after fire extinguished. Fire fighters must wear breathing apparatus.	

ICE SHEET 030 - ODORANT (LIQUID AND VAPOUR)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Odorant (Liquid and Vapour)			UN No: 1993 Class. Code: 3 Transport Cat: 2
Activity	Local storage and maintenance operations for injection of odorant into supply network to give characteristic odour to distributed gas.			
Hazards	 Highly Flammable NB: Flash Point Minus 31°C HEXANE BLEND: Flash Point Minus 21°C - Minus 31°C.	May cause sensitisation by skin contact (not THT) After initial skin contact, further exposure may cause reaction.	May cause Eye Irritation Inflammation of the eyes, soreness, excessive watering of the eyes.	Unpleasant smell causes feelings of sickness. Higher exposure causes headache.
System is designed for complete containment of odorant. Contact with odorant can possibly occur during maintenance operations.				
Precautions	 Do not use near naked flame. Do not smoke. Maintain Good Hygiene Standards. Follow Local Procedures and Work Instructions. Wear nitrile gloves if handling odorant wetted components.	 Wear NOMEX/ Probanised workwear. Additionally, wear chemically resistant protective overalls if handling odorant wetted components.	 Wear Safety goggles. "Marked B,3,4" during all operations.	 For maintenance use disposable mask 3M 9913 or class 1 twin filter mask with 1U organic vapour filter.
Storage & Transport	Observe requirements of Highly Flammable Liquids Regs. Eliminate all sources of ignition and static discharges. Transfer via closed systems. Delivered to site by suppliers' tanker. Specific vehicle marking and driver training required.			
Re-use Re-cycling Disposal	No waste in normal use.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: Follow NGN and specific Local Procedures.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Seek medical advice without delay. VAPOUR INHALATION: Remove to fresh air, rest and keep warm. Seek medical advice.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Highly flammable liquid. Type of Extinguisher: Foam, Dry Powder or Carbon Dioxide. Do not use water jet to fight fire, but water spray can be used to cool containers. Fire fighters must wear breathing apparatus.	

ICE SHEET 031 - ASBESTOS CONTAINING MATERIALS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Asbestos Containing Materials			UN No: See list Class. Code: Transport Cat:
Activity	Handling and transportation of Asbestos Containing Material.			
Hazards	 Toxic by Inhalation Danger of serious damage to health by exposure through inhalation.			
Breathing dust released from asbestos containing materials may lead to cancer and other diseases.				
Precautions	 Follow advice on "Good Hygiene Practice" see Occupational Health Section. Wear hooded disposable protective overalls over workwear, and disposable over-shoes.	 Avoid skin contact. Wear disposable nitrile gloves.	 Wear Safety goggles. "Marked B,3,4"	 Where dust is released dust masks must be worn. FFP3SD
Storage & Transport	Asbestos containing materials must be double-bagged in plastic bags marked "Danger Asbestos", sealed to prevent release of dust and labelled to identify source. Store bags in secure area, protect from accidental damage and weather. The above protective equipment must be available. Asbestos containing materials must only be transported if bagged as above. All loads must be secure. Transportation of waste must only be by licensed waste carrier.			
Re-use Re-cycling Disposal	DO NOT dispose of asbestos containing waste other than as special waste via a licensed waste disposal contractor to a suitable licensed waste facility. All asbestos contaminated materials, including disposable overalls, gloves, mask must be disposed of as asbestos waste.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Use PPE as above, evacuate and isolate area. 2. Dampen spilled material. 3. Contain and clean up spillage. 4. Collect material in labelled sealable container and dispose of as above.	
First Aid	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing and wash skin thoroughly with soap and water. In the event of contact with asbestos containing materials seek medical advice.			
Fire	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Fire Extinguisher: Any may be used. Fire fighters require breathing apparatus. Fire can cause release of fibres from asbestos materials.	

ICE SHEET 032 - LIQUIFIED NATURAL GAS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Liquefied Natural Gas			UN No: 1972 Class. Code: 2.1 Transport Cat: 2
Activity	1. Bulk handling and storage at Independent Undertakings. 2. Distribution by road tanker.			
Hazards 	Extremely Flammable Flash Point: -188°C Flammability limits: 5 - 15% gas in air.	Risk of asphyxiation. Presence of gas in atmosphere will reduce oxygen levels. May result in unconsciousness and death.	At lower concentrations, may cause headaches, dizziness, drowsiness, nausea and vomiting.	Liquefied Gas stored at pressure and low temperature. Gas is colourless and odourless.
Contact with liquid and containing pipework will cause cold burns, blisters, frostbite.				
Precautions Follow NGN Procedures and Permit to Work conditions.	 Wear NOMEX/ Probanised workwear (or Nomex Fire Suit where required by procedures and risk assessment). Wear thermally insulating gloves.	 Wear Breathing Apparatus where required by procedures and risk assessment.	 Wear safety goggles. "Marked B,3,4" Do not wear contact lenses when working with LNG.	Ensure good ventilation. Eliminate all heat, flames, sources of ignition and static discharges. Do not smoke.
Storage & Transport	Subject to NGN Codes of Practice and Procedures. Eliminate all heat, flames, sources of ignition and static discharges. Transportation by road is subject to Carriage of Dangerous Goods Regulations. Orange panels are required to be displayed at front and rear of vehicle. Specific Driver training is required.			
Re-use Re-cycling Disposal	Discharges to atmosphere must be reduced to as low as practical, eg. by reporting and preventing leakage, reducing pressures before venting and purging. Do not discharge into areas where risk of forming explosive or asphyxiant atmosphere.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. Do not touch spillage. 2. Use PPE as above, ventilate area. 3. Do not turn electrical switches on or off. Eliminate other sources of ignition. 4. Cover drains, evacuate basements. 5. Inform line manager immediately.	
First Aid 	INHALATION: Consider risks to own safety before attempting rescue of affected person. Remove casualty to fresh air, rest and keep warm. Get prompt medical attention. Perform artificial respiration if breathing has stopped. EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Immediately remove contaminated clothing. If frostbite, freezing or cold burns occur, warm affected area with warm water (around 40°C) - not dry heat. Remove rings etc. Raise affected area and wrap in dry dressing. Get immediate medical attention.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Extremely flammable gas. Flammability range 5 - 15%. Type of Extinguisher: Water spray, fog or mist, Foam, Dry Powder or Carbon Dioxide. Where possible, shut off gas supply. Gas may re-ignite after fire extinguished. Fire fighters must wear breathing apparatus.	

ICE SHEET 033 - DISTRIBUTED GAS (PROPANE)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Distributed Gas - Propane			UN No: 1978 Class. Code: 2.1 Transport Cat: 2
Activity	1. Emergency situations involving leakage of gas from distribution system. 2. Maintenance operations on gas network involving release of gas (eg. venting, purging).			
Hazards 	Extremely Flammable Flash Point: -104°C Flammability limits: 2.3 - 9.5% gas in air.	Risk of asphyxiation. Presence of gas in atmosphere will reduce oxygen levels. May result in unconsciousness and death.	At lower concentrations, may cause headaches, dizziness, drowsiness, nausea and vomiting.	Gas at pressure. Pressure varies depending on part of network involved.
Care must be taken to ensure adequate ventilation and/or flueing of gas burning appliances to remove combustion products. See ICE018.				
Precautions Follow NGN Procedures and Permit to Work conditions.	 Wear NOMEX/Probanised Workwear (or Nomex Fire Suit where required by procedures and risk assessment).	 Wear Breathing Apparatus where required by procedures and risk assessment.	Ensure good ventilation. Eliminate all heat, flames, sources of ignition and static discharges. Do not smoke.	
Storage & Transport	Subject to NGN Codes of Practice and Procedures. Eliminate all heat, flames, sources of ignition and static discharges. Transportation by pipeline is subject to Regulation, NGN Codes of Practice and Procedures.			
Re-use Re-cycling Disposal	Discharges to atmosphere must be reduced to as low as practical, eg. by reporting and preventing leakage, reducing pressures before venting and purging.			
Emergency Action	Drivers Information: Not applicable.		Spillage: In the event of leakage, gas supply should be shut off and area ventilated - subject to local procedures. To report gas escapes: 0800 111 999. Do not turn electrical switches on or off. Eliminate other sources of ignition. Immediately inform line manager.	
First Aid 	INHALATION: Consider risks to own safety before attempting rescue of affected person. Remove casualty to fresh air, rest and keep warm. Get prompt medical attention. Perform artificial respiration if breathing has stopped.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Extremely flammable gas. Flammability range 2.3 - 9.5%. Type of Extinguisher: Water spray, fog or mist, Foam, Dry Powder or Carbon Dioxide. Where possible, shut off gas supply. Gas may re-ignite after fire extinguished. Fire fighters must wear breathing apparatus.	

ICE SHEET 034 - HEALTH HAZARDS (ASSOCIATED WITH INSECTS; ANIMAL DROPPINGS; FUNGAL GROWTH AND DISCARDED NEEDLES)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Health Hazards - associated with Insects; Animal Droppings; Fungal Growth and Discarded Needles.			UN No: N/A Class. Code: N/A Transport Cat: N/A
Activity	Any activity during which contact is possible with water, animals, insects, animal/bird droppings, fungal growths, discarded needles.			
Hazards 	Animal bites/scratches: infection, feeling unwell, fever symptoms. See also Tetanus, below. Mould Spores: inhalation of spores from fungal growths eg. in damp buildings/cellars can lead to respiratory illness by infection or allergic reaction. Animal Faeces: contain viruses, bacteria and parasitic worm eggs. Ingestion (via contaminated hands) causes stomach upset. Eye contact (via contaminated hands) can lead to eye damage/blindness caused by parasitic worm intrusion. Discarded Needles: unintentional injection by needles can transmit HIV (virus associated with AIDS) and hepatitis which can cause serious disease which can be fatal. Insect Bites: local inflammation. Scratching can lead to bacterial infection. Bees and wasps inject venom to which some individuals are particularly sensitive and may experience respiratory and vascular difficulties. Flies: ingestion of contamination of food can lead to stomach upset. Bird Droppings: may be a source of tuberculosis. Also, in dried form, can lead to allergic respiratory reactions. Weils Disease: infection (which may be fatal) transmitted by contact with infected rats' urine or contaminated water, soil or vegetation (sewers, stagnant pools). Another form of illness may be transmitted from cattle. Initial symptoms include flu-like illness and persistent severe headache. Tetanus: contracted from contaminated soil via broken or damaged skin, leading to illness including stiffness of jaw, abdominal and back muscles, fever symptoms and damage to central nervous system. Also possible via animal bites.			
Precautions	 Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear General Handling Gloves where practical.	 Where significant mould growth or accumulated dried bird droppings are evident, wear dust mask (FFP2S).	When encountering discarded needles: DO NOT touch needle(s) with bare hands. Make site safe and contact the local Authority Environmental Health Dept. If necessary, wear suitable gloves, transfer needle to Sharps box using disposable tweezers. Refer to hypodermic needle procedure Be extra vigilant in dirty dwellings. Look for signs of drug misuse. Keep food covered to keep flies off. Cover cuts/abrasions with waterproof plasters. Keep tetanus immunisation up to date (within last 10 years). Contact with sewage contamination must be avoided unless full impermeable PPE is available and worn.
Storage & Transport	Sharps box containing discarded needles should be kept upright and secure during transport to the waste disposal facility.			
Re-use Re-cycling Disposal	Sharps box containing discarded needles should be taken to suitable disposal facility (Chemist, Health Centre etc).			
Emergency Action	Drivers Information: Not applicable.		Spillage: Not applicable.	
First Aid 	Animal Bites: wash, clean and cover with dressing. Seek medical attention. Mould Spores: if breathing difficulties occur following exposure, seek medical attention. Animal Faeces: if skin is contaminated, wash thoroughly. If skin is broken seek medical attention. Needle Injuries: encourage bleeding by pressure around entry point - do not suck the injury. Cover with dry dressing and seek medical attention immediately. Insect Bites/Stings: if allergic reaction occurs, seek medical attention immediately. Bird Droppings: seek medical attention if illness develops following possible exposure. Weils Disease: seek medical attention if illness develops following possible exposure, explaining nature of work. Prompt treatment is essential. Tetanus: seek medical attention if illness develops following possible exposure.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Not applicable.	

ICE SHEET 036 - CLEANERS AND SOLVENTS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Cleaners & Solvents (see ICE001 for Disinfectants, ICE009 for Aerosol Cleaners, ICE024 for Bleach)			UN No: Dependent on Product Class. Code: Transport Cat:
Activity	General cleaning, janitorial services and surface preparation.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, excessive watering of the eyes.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin. Repeated/prolonged contact may cause dermatitis.	Harmful if Swallowed May cause sickness, feeling unwell, drowsiness.	Irritating to the Respiratory System Breathing of fumes or dusts may cause coughing, irritation of the throat.
Cleaning materials must not be mixed to avoid harmful reactions.				
Precautions Protect hands by use of barrier creams, after-work creams, hand cleaners/scrubs. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 Avoid skin contact. Wear chemical resistant nitrile gloves, if prolonged skin contact cannot be avoided.	 Wear protective overalls. Do not carry rags in pockets. Launder overalls regularly.	 Wear safety goggles if risk of splashing. "Marked B,3,4"	Do not breathe vapours, dusts. Ensure adequate ventilation. Wash hands thoroughly. Do not use near naked flame. Do not smoke.
Storage & Transport	Store in original containers away from naked flames, other sources of ignition, heat and strong oxidising agents. Local spill control procedures should be available. Drums should be stored in a controlled area that prevents spills and leakage entering drains (eg. bunds/drum pallets) and protected from weather. Ensure load is secure, protected from damage and transported in their original supply containers.			
Re-use Re-cycling Disposal	Empty containers (<5 litres) may be disposed of in general waste skip. Larger containers should be returned to supplier. If use involves dilution and disposal to sewer, ensure discharge has appropriate consent. Collected, used materials should be disposed of as Special Waste to a licenced waste disposal or reclaiming contractor. Ensure that Special Waste consignment notes are used for disposal or reclamation.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. Evacuate spill area. 3. Protect drains. 4. Clean up spilt residues with spill kit, sand or earth. 5. Collect spent absorbent in plastic bag/container and dispose of as Special Waste. 6. If substance has entered a water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. If significant skin contamination has occurred seek medical attention without delay. SWALLOWING: If conscious, give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. Risk of aspiration into lungs if vomiting occurs. VAPOUR INHALATION: Remove to fresh air and rest. If difficulty in breathing, seek medical advice.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam or Water Fog. (Do Not Use Water Jets.)	

ICE SHEET 037 – JOINTING COMPOUNDS AND SEALANTS

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Jointing Compounds and Sealants			UN No: N/A Class. Code: Transport Cat:
Activity	1) Sealing of pipework joints. 2) Filling.			
Hazards 	Irritating to the Skin Repeated or prolonged skin contact may cause reddening, soreness and/or itching of the skin.	Irritating to the Eyes May cause slight eye irritation.	Harmful if Swallowed May cause diarrhoea, nausea, sickness.	
Precautions Follow advice on "Good Hygiene Practice" see Occupational Health Section.	Avoid skin contact, use appropriate applicator where possible.	 Wear nitrile gloves for prolonged or repeated skin contact.		
Storage & Transport	Store in cool, dry place. Store away from naked flames, sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. No vehicle warning signs or specific driver training is required, however this ICE sheet should be available whenever loads are transported.			
Re-use Re-cycling Disposal	Empty containers and soiled rags etc. may be disposed of following local waste procedures.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Use PPE as above. 2. Scrape up and collect spilt material in closed container or plastic bag. 3. To prevent slips, cover spillage area with sand. 4. Dispose of as above.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing and wash skin thoroughly with soap and water. Seek medical advice. SWALLOWING: DO NOT MAKE THE CASUALTY VOMIT. Get casualty to rinse out mouth and drink plenty of water. Seek medical advice. INHALATION: If irritation occurs, move to fresh air.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Fire fighters should wear breathing apparatus. Type of Extinguisher: Dry Powder, Carbon Dioxide, Foam.	

ICE SHEET 038 - PHOTOCOPIER/PRINTER TONER

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Photocopier/Printer Toner			UN No: N/A Class. Code: Transport Cat:
Activity	Replacement of toner cartridges in photocopiers and printers.			
Hazards 	Irritating to the Respiratory System Coughing, irritation of the throat.	Irritating to the Skin Skin reddening, soreness and/or itching of the skin.	Irritating to the Eyes reddening, soreness, stinging or watering of the eyes.	
Toner is a fine powder, supplied in sealed cartridges. Excessive exposure may lead to irritation, as with any non-toxic dust.				
Precautions Follow advice on “Good Hygiene Practice” see Occupational Health Section.	Under normal circumstances no special protective measures are required.		If risk of contact with toner powder: Wear disposable nitrile gloves. Wear goggles “Marked B,3,4” if eye contamination possible. Avoid inhalation of dust - wear disposable mask (FFP2S) if excessive dust in atmosphere.	
Storage & Transport	If spilled material is collected, store in sealed container or bag. No particular transport requirements.			
Re-use Re-cycling Disposal	If spilled material is collected, store in sealed container or bag and dispose following local waste procedures. Cartridges are returned for recycling. Do not dispose of cartridges in fires.			
Emergency Action	Drivers Information: Not applicable.		Spillage: Should collected dust be spilled, follow precautions above for protection during clean-up. Vacuum or sweep material - vacuum cleaner MUST have HEPA filter, and be bonded and grounded to prevent static build-up. To avoid dust do not sweep dry.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash skin thoroughly with soap and water. INHALATION: Remove to fresh air and rest. If symptoms persist seek medical advice. INGESTION: Wash out mouth with water. Drink plenty of water. Seek medical attention.			
Fire 	Drivers Information: Not applicable.		Emergency Services: Material can form explosive mixtures when dispersed in air. Type of extinguisher: Water spray, dry powder, foam, carbon dioxide. Do not use water if equipment on fire. Fire fighters should wear breathing apparatus.	

ICE SHEET 039 – LEAK DETECTION FLUID

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Leak Detection Fluids & Sprays			UN No: 1950 (aerosols) Class. Code: 2.2 Transport Cat: 2
Activity	Detection of minor leakage from pressurised pipework systems.			
Hazards	 May cause Irritation to Eyes and Skin Concentrated product may cause irritation.	Harmful if Swallowed Large quantities may cause stomach ache, sickness, diarrhoea.	Irritation of Respiratory System High concentrations of mist may cause irritation, coughing, irritation of the throat.	
Precautions	No special precautions in normal use.	 In risk of excessive skin contact: Wear chemically resistant Nitrile gloves/gauntlets.	Do not breathe spray.	 Wear goggles "Marked B,3,4" if risk of eye contact.
Storage & Transport	Containers should be kept in a cool, dry, well ventilated place (0-50°C). Protect from accidental damage. Keep containers tightly closed when not in use. Store in original containers. Ensure load is secure and protected from damage. No vehicle warning signs or specific driver training is requires, however this ICE sheet should be available whenever loads are transported. Standard aerosol containers are below requirements for labelling vehicles.			
Re-use Re-cycling Disposal	No waste in normal use, except for empty containers and empty aerosol cannisters which should be disposed of according to Local Waste Procedures. Aerosol cannisters should not be punctured or burnt.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked lights. No smoking. 3. Mark roads and warn other road users or passers-by. 4. Inform the public about the hazard and give advice to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop leaks if without risk. 2. Use PPE as above. 3. Cover drains. 4. Absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent in labelled sealable container and dispose of in general waste..	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing, wash skin thoroughly with soap and water. SWALLOWING: Wash mouth out with water. Give casualty water to drink. Seek medical advice without delay. DO NOT MAKE THE CASUALTY VOMIT. INHALATION: Remove to fresh air. Seek medical assistance.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: AEROSOL SPRAYS: Fire fighters require breathing apparatus. Use foam dry powder or carbon dioxide extinguishers. Do not use water jet. Aerosol containers may explode in fire.	

ICE SHEET 040 – LEAD METAL (VAPOUR, FUME, DUST)

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Lead (vapour, fume, dust) (for Metal Grindings see also ICE011)			UN No: N/A Class. Code: N/A Transport Cat: N/A
Activity	For SHORT TERM Activities where lead vapour, fume or dust is generated. For example: hot-cutting, burning, grinding, brushing of painted metal surfaces, soldering using lead-containing solder, pigging operations and work on HP filters.			
Hazards 	Irritating to the Eyes Eye reddening, soreness, stinging, watering. Serious risk of eye damage from high velocity particles from grinding etc.	Irritating to the Respiratory System Coughing, irritation of the throat through dust and fume inhalation.	Irritating to the Skin Dust and fume can cause irritation and redness to the skin.	Irritating if Ingested Lead dust, if transferred from hands to mouth, may cause irritation to digestive system.
Prolonged or repeated exposure may lead to effects on central nervous system. Major work involving lead which may fall within the Control of Lead at Work Regulations will require specific risk assessment to determine additional controls.				
Precautions Always assume that paint on metal surfaces contains lead unless confirmed otherwise. Follow advice on "Good Hygiene Practice" see Occupational Health Section.	 If risk of eye contact with dust, fume or vapour, wear goggles or visor, marked "B,3,4"	 Where dust is generated, wear dust mask (FFP3S)	 Avoid skin contact. Wear general handling gloves.	Avoid breathing fume. Ensure good ventilation. Exhaust ventilation is required in confined spaces or areas where good ventilation cannot be achieved.
Storage & Transport	Where lead containing waste is accumulated (eg. leaded paint chippings) it must be double-bagged, sealed to prevent release and labelled. Store bags in secure area protected from accidental damage and weather. The above Protective Equipment must be available. Lead containing materials must only be secure. Transportation of waste must only be by licensed waste carrier.			
Re-use Re-cycling Disposal	Lead containing waste (as above) must be disposed of as Special Waste via a licensed waste disposal contractor to a suitable licensed waste facility.			
Emergency Action	Drivers Information: Not applicable.		Spillage: 1. Use PPE as above, evacuate and isolate area. 2. Dampen spilled material. 3. Contain and clean up spillage. 4. Collect material in labelled sealable container and dispose of as above.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Remove contaminated clothing and wash skin thoroughly with soap and water. INHALATION: Remove to fresh air and rest. If symptoms persist seek medical advice. SWALLOWING: Unlikely, but if suspected, do not induce vomiting.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and you are confident that the fire can be easily extinguished.		Emergency Services: Fire Extinguishers: Any may be used. Fire fighters require breathing apparatus.	

ICE SHEET 041 – HIGH TEMPERATURE EPOXY PIPE COATING

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	HIGH TEMPERATURE EPOXY PIPE COATING			UN No: 3082 Class. Code: 9 Transport Cat: 1
Activity	Application of pipe coating for use in wet conditions only.			
Hazards 	Irritating to the Eyes Inflammation of the eyes, soreness, excessive watering of the eyes.	Irritating to the Skin Inflammation of the skin. Skin itching and sore. Risk of Sensitisation by Skin Contact.	Harmful if Swallowed Ingestion may cause irritation to mouth, throat and stomach.	Part B Only: May cause Cancer Danger of serious damage to health by prolonged contact with skin. Can be absorbed through skin. Possible risk of impaired fertility. Possible risks of harm to unborn child.
Note: When Part A and B have been mixed and cured the product does not present a hazard.				
Precautions Follow "Good Hygiene Practice" see Occupational Health Section. Those previously sensitised should not work with this substance.	 Wear goggles marked "B,3,4" If applying above head height use face shield and head protection.	 Wear disposable chemical resistant, impervious coveralls over normal workwear.	 Wear chemical resistant nitrile gauntlets. Wear once and dispose - do not reuse.	Materials must be used only for intended purpose. Do not mix in excavations or other confined spaces. Ensure emergency shower/eyewash facilities immediately available.
Storage & Transport	Keep in a cool, dry place (5-25°C). Store away from naked flames, sources of ignition and heat. Protect from direct sunlight. Keep containers tightly closed when not in use. Containers should carry suppliers' label and be stored in controlled area that prevents spills or leakage from entering drains. Protect from accidental damage/interference. If transporting, ensure load is secure and protected from damage. Where total volume transported exceeds 20 litres orange panels are required to be displayed at front and rear of vehicle. (Remove panels when no containers carried). Specific driver training may be required.			
Re-use Re-cycling Disposal	No waste material in normal use. Any residue of part B remaining is neutralised by transferring some of blended Part A/B components back into container and stirring. When this is transferred to main container for use, residue will cure. Dispose of containers as controlled waste according to local procedures.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked flames. No Smoking. 3. Mark roads and warn other road users and passers-by. 4. Inform public of hazard and advise to keeps upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop spill/leak if without risk. 2. Use PPE as above. 3. Cover drains. 4. Bund and absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent for disposal via licensed waste disposal contractor. 6. If substance has entered water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid 	EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wipe off with absorbant material. Wash skin thoroughly with soap and water. Seek medical advice. INHALATION: Remove to fresh air and rest. Seek IMMEDIATE medical advice. SWALLOWING: Give plenty of water immediately. DO NOT INDUCE VOMITING. If possible give charcoal slurry - Seek IMMEDIATE attention.			
Fire 	Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and are confident of extinguishing the fire.		Emergency Services: Self contained breathing apparatus and full protective clothing required. Do NOT use high volume water jet.	

ICE SHEET 042 – BATTERY ACID – SULPHURIC ACID

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Battery Acid (Sulphuric Acid 15-50 %)			UN No: 2796 Class. Code: 8 Transport Cat: 3
Activity	Used as electrolyte in cells of wet batteries (eg lead – acid). Sealed (NiCad) Cells also contain acid.			
Hazards	 Causes Severe Burns Severe skin burns - irritation, blistering. Painful burns to eyes which can lead to permanent damage.	Irritating to the Respiratory System Coughing, irritation, wheezing, shortness of breath through inhalation of mists.	Harmful if Swallowed Ingestion may cause serious burns to mouth, throat and stomach.	May give off flammable hydrogen gas in contact with metals.
Causes Severe Burns to Living Tissue				
Precautions	 Follow “Good Hygiene Practice” see Occupational Health Section. Ensure emergency shower/eyewash facilities immediately available.	 Wear visor for eye/face protection marked “B,3,4” Wear chemical resistant, impervious overalls/coveralls, rubber boots (acid resisting).	 Wear chemical resistant heavy duty nitrile gauntlets.	Undertake work only in well ventilated areas, or employing extraction system. Seek advice regarding respiratory protection if mist likely to be created. Material must be used only for intended purpose.
Storage & Transport	Containers should be delivered directly to site where required. Containers should carry suppliers’ label and be stored in controlled area that prevents spills or leakage from entering drains. Protect from accidental damage/interference. If transporting, ensure load is secure and protected from damage. Where total volume transported exceeds 1000 litres orange panels are required to be displayed at front and rear of vehicle. (Remove panels when no containers carried). Specific driver training may be required.			
Re-use Re-cycling Disposal	No waste material in normal use. Material is required for operation of batteries. In event of disposal of redundant batteries, treat as SPECIAL WASTE.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked flames. No Smoking. 3. Mark roads and warn other road users and passers-by. 4. Inform public of hazard and advise to keeps upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop spill/leak if without risk. 2. Use PPE as above. 3. Cover drains. 4. Bund and absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent for disposal via licensed waste disposal contractor. 6. If substance has entered water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical advice. SKIN: Wash skin thoroughly with plenty of water. If large area of skin damaged or irritation persists, seek medical attention. INHALATION: Remove to fresh air and rest. If recovery is not rapid and complete seek medical attention. Following inhalation, keep under observation due to possibility of delayed pulmonary oedema. SWALLOWING: If swallowed, wash out mouth with water. DO NOT INDUCE VOMITING. If conscious, give water to drink. Seek medical attention.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and are confident of extinguishing the fire.		Emergency Services: Self contained breathing apparatus and full protective clothing required. Use Dry powder or water with extreme caution.	

ICE SHEET 043 – COPPER SULPHATE – HALF CELL ELECTROLYTE

FOR MORE INFORMATION SEE YOUR MANAGER FOR THE COSHH ASSESSMENT

Substance	Copper Sulphate Half cell electrolyte			UN No: 3077 Class. Code: 9 Transport Cat: 3
Activity	Used as electrolyte in half cells for Cathodic Protection testing. Available as gel or as a solid powder / granules which requires making into a solution for use			
Hazards	 Harmful if Swallowed Ingestion may result in stomach upset, vomiting, diarrhoea, and ulceration of the gastrointestinal tract.	Irritating to the Skin May cause mild skin irritation.	Irritating to the Eyes Eye contact will cause irritation. Contact with particles may result in damage.	Highly water soluble and toxic to fish and other aquatic life. It can also be toxic to plant life and other terrestrial organisms at elevated concentrations in soils.
Some individuals may become sensitized to copper sulphate and develop allergic contact dermatitis.				
Precautions	 Avoid skin contact Wear disposable nitrile gloves if skin contact cannot be avoided	 Wear safety goggles if risk of eye contact “Marked B, 3, 4”	Material must be used only for intended purpose.	
Storage & Transport	Store containers in a dry, cool, well-ventilated area, away from incompatible materials. Keep container tightly closed. Containers should carry suppliers' label and be stored in controlled area that prevents spills or leakage from entering drains. Protect from accidental damage/interference. If transporting, ensure load is secure and protected from damage.			
Re-use Re-cycling Disposal	No waste in normal use if using gel.. In event of disposal of solution when replenishing, treat as SPECIAL WASTE. DO NOT WASH DOWN DRAIN.			
Emergency Action	Drivers Information: 1. Stop the engine. 2. No naked flames. No Smoking. 3. Mark roads and warn other road users and passers-by. 4. Inform public of hazard and advise to keep upwind. 5. Notify police and fire brigade as soon as possible.		Spillage: 1. Stop spill/leak if without risk. 2. Use PPE as above. 3. Cover drains. 4. Bund and absorb spillage with spill kit, sand or earth. 5. Collect spent absorbent for disposal via licensed waste disposal contractor. 6. If substance has entered water course or sewer or been spilt on soil or vegetation, inform line manager immediately.	
First Aid	 EYES: Rinse immediately with plenty of clean water. Seek medical attention. SKIN: Wash skin thoroughly with plenty of water. If large area of skin damaged or irritation persists, seek medical attention. SWALLOWING: If swallowed, wash out mouth with water. DO NOT INDUCE VOMITING. (Swallowing copper sulphate normally causes vomiting) If conscious, give water to drink. Seek medical attention. INHALATION: Remove to fresh air and rest. If recovery is not rapid and complete seek medical attention.			
Fire	 Drivers Information: Do not attempt to deal with any fire unless you have had fire fighting training, have the correct equipment and are confident of extinguishing the fire.		Emergency Services: Self contained breathing apparatus and full protective clothing required. Use any means of extinction appropriate for surrounding fire conditions such as water spray, carbon dioxide, dry powder, or foam.	