



## Excavating Safely

Avoiding injury  
when working  
near gas pipes

Measures to stay safe and avoid damage when  
working near gas distribution pipes

The following protective measures must be taken when excavating in the vicinity of National Grid gas apparatus at up to 7 bar pressure.

Reference should be made to the HSE Guidance Note HSG 47 'Avoiding Danger from Underground Services' and to 'Utilities Guidelines on Positioning and Colour Coding of Apparatus'. (The latter document can be downloaded free of charge at [www.njug.org.uk](http://www.njug.org.uk)).

To avoid injury to workers you must verify the details given on plans by; use of plant location equipment to trace all underground plant; hand dig trial holes to confirm the precise location of plant;

and use suitable paint or markers on the surface to clearly indicate the position of buried apparatus.

You must ensure full colour copies of National Grid plans are issued to the workers carrying out the excavations.

Every possible precaution must be taken to avoid personal injury or damage to National Grid apparatus during the progress of the works. Any costs incurred by National Grid for the repair of direct or consequential damage will be recharged in full.

National Grid reserves the right to divert any affected apparatus if proved necessary during the course of your works: the cost of which may be recharged – remember, if in doubt ask.

### Surface boxes/manholes

Do not bury or move National Grid surface boxes. Access must be maintained both during and after your works. National Grid reserve the right to locate and/or realign any boxes not left in such condition upon completion of your works and at your expense. No manhole cover or other structure is to be built over, around, or under a gas pipe and no work is to be carried out which results in a reduction or increase in cover or protection, without agreement.

### Clearances

#### Gas Pipes

No apparatus is to be laid directly above and along the line of existing gas pipes irrespective of clearance. Where new plant crosses over, or is laid alongside, an existing gas pipe, a minimum clearance of 250mm (or 1.5 times the external diameter of the gas pipe if this is greater) between the gas pipe and the new plant should be provided to allow future repair or maintenance. Where the minimum clearances cannot be met, or the work is close to a pipe operating above 2 bar (intermediate pressure), site discussions should be held with National Grid to agree a suitable clearance.

## In case of a Gas Emergency

If you cause a gas leak, or suspect that gas pipe or equipment is leaking, you must take the following actions immediately:

• Inform the National Gas Emergency service immediately on 0800 111 999\*.

- Stop work and get everyone away from the immediate vicinity of the escape.
- Do not attempt to stop the escape by filling the hole as gas may enter buildings.
- Do not attempt to operate any valves (unless directed by call centre staff to close emergency control valves at domestic properties).
- If escaping gas is entering properties, advise the occupants to leave until it is deemed safe to return by National Grid staff.

## Minimum Safe Working Distances

Always contact National Grid for gas plans before carrying out any works. Furthermore, you must contact National Grid for specific guidance and safe working distances when undertaking the following activities in the vicinity of National Grid gas pipes:

use of explosives/blasting operations, piling, boring, construction works, demolition, deep excavations, road planing, levelling. Contact the plant protection team on 0800 688 588 for the minimum safe working distances.

Trial holes must be dug by hand to determine the exact location of mains and services in advance of mechanical excavating or thrust boring.

## Intermediate Pressure Mains and Services

If you are planning to carry out any excavation works within 3.0 metres of an intermediate pressure gas pipe (operating between 2 and 7bar) you **MUST** contact the plant protection team on 0800 688 588 before you start work. In some circumstances National Grid apply the requirements of SSW22 for intermediate pressure mains.

## Mechanical excavations

**Mechanical excavators (including breaker attachments) **MUST NOT** be used within the following distances from gas mains.**

Low Pressure	0.5 metres
Medium Pressure	0.5 metres
Intermediate Pressure	3.0 metres

## Tree planting

If trees or shrubs are to be planted adjacent to our equipment, the selection of the type of tree or shrub and its planting must be considered so that root damage to buried mains or services will be avoided and that damage to trees or shrubs will not be caused by any subsequent excavations for repair and maintenance. Planting schemes should be submitted to National Grid for approval. We reserve the right to remove any tree/bush at any time in the future.



## Backfilling

Concrete backfill should not be placed closer than 300mm to apparatus. No concrete or hard material should be placed under or adjacent to any apparatus.

Material used for the surround backfill of National Grid gas plant must conform to the following requirements:

- If sand, it must be well-graded in accordance with BS EN 12620: 2002.
- It must not contain any sharp particles.
- Foamed concrete should not be used.
- It must be laid to a minimum depth of 150mm above the crown of the apparatus. Power ramming should not take place until a 250mm hand rammed layer has been completed over the crown of the pipe.

## Deep Excavations

If a sewer trench or any other water authority apparatus is to be constructed at greater than 1.5 metres deep near to a buried cast iron main, the model consultative procedure for pipeline construction involving deep excavations applies. National Grid is to be provided with detailed drawings showing the line and width of the proposed sewer or other apparatus trench, together with the soil group classifications of the area concerned.

- Damage to a service supplying a building may result in gas entering the building.
- Prevent any approach to the immediate vicinity of the escape.
- Prohibit smoking and extinguish all naked flames or other ignition sources for at least 15m from the leakage.
- Assist National Grid, Police or Fire Services as requested.

Smell gas? Call 0800 111 999\*

\* All calls are recorded and may be monitored.

For National Grid gas plans, information on safe digging and advice on minimum safe working distances or any other gas plant enquiries, please contact the National Grid Gas Plant Protection Team on 0800 688 588.

## Access

Access to sites and to National Grid apparatus must be provided at all times. Please ensure that any temporary structures (portakabins, welfare facilities, silos etc.) or spoil heaps are not placed over National Grid gas pipes as this may block access and cause excess loading on the pipes. For further advice contact the National Grid Gas Plant Protection Team on 0800 688 588.

## Crossing National Grid plant

The placing of heavy construction plant, equipment, materials or the passage of heavy vehicles over National Grid gas apparatus is prohibited unless specially agreed protective measures (i.e. the construction of reinforced crossing points) have been carried out. This is particularly important where reductions in side support or ground cover are planned.

## Working in wayleaves or easements

Work should not be undertaken within a National Grid wayleave/easement without the formal written consent of National Grid.

## Exposed plant

Where excavations adjacent to apparatus affect its support, the apparatus must be adequately supported and protected in consultation with and to the satisfaction of National Grid. All exposed plant must be protected from impact. Thrust blocks and supports must not be disturbed.

Welding, or other hot works involving naked flames, must not be carried out in the vicinity of exposed gas pipes without consent from National Grid and a prior agreement of precautions that will ensure the integrity of plastic pipes and protective coatings.

Shuttering must be constructed so as to prevent fresh concrete encasing National Grid gas apparatus and to maintain the stated clearances.

If you damage National Grid gas pipes or apparatus, including damage to wrapping or sleeving you must call 0800 111 999\* immediately.

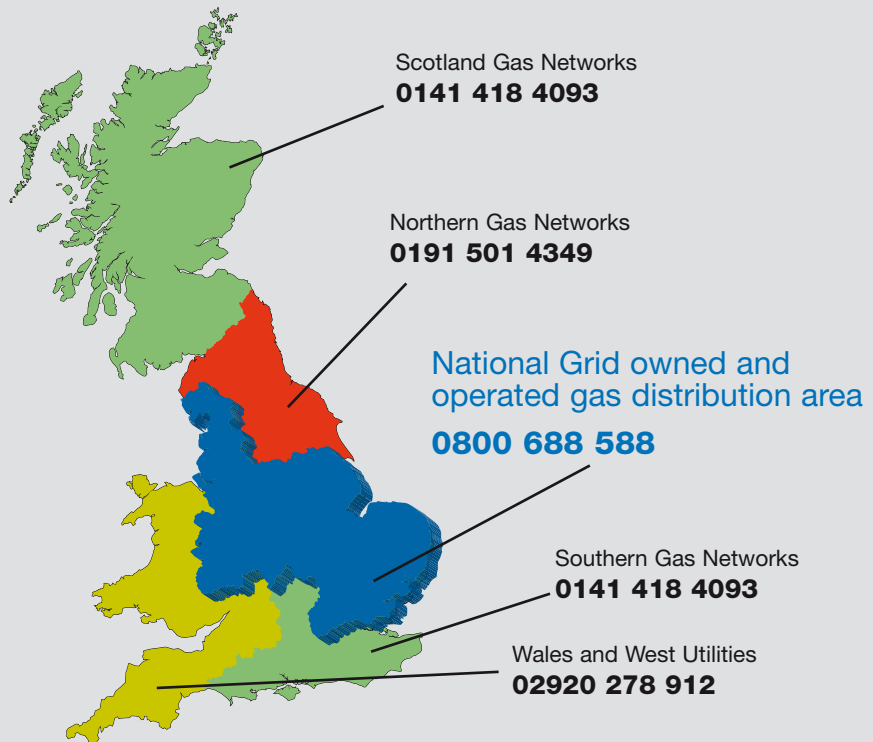
**If you are working in the vicinity of gas pipes above 7 bar in pressure please contact us on 0800 731 2961 if you have not already got a copy of 'SSW22 Safe working in the vicinity of National Grid high pressure pipelines and associated installations'.**

GAS DISTRIBUTION pipelines may be directly affected by work you are considering or intending to undertake.

Depending on where you are in England, Wales or Scotland you will need to contact the relevant gas distribution network company.

The adjacent map gives the contact numbers which you must call for plans and advice before working near any gas apparatus.

However, all gas emergency calls, irrespective of your location must be directed to the National Gas Emergency Service on 0800 111 999\*.



## Further Information

For free downloads of our 'Safe Excavation' films, this leaflet and other safety publications, please visit <http://www.nationalgrid.com/dialbeforeyoudig>

National Grid is a leading international energy infrastructure business – the largest utility in the UK.

Through National Grid Gas plc (formerly Transco), it owns and operates over 6,800 kilometres of high-pressure transmission pipeline across Great Britain, and 132,000 kilometres of lower-pressure distribution gas mains in the North West, the Midlands, East Anglia and North London – more than half of Britain's gas transportation network, delivering gas to around 11 million homes, offices and factories. National Grid sold the four gas distribution networks covering the rest of Britain to other companies in June 2005.

Through National Grid Electricity Transmission plc, the company operates the high-voltage electricity transmission network across Great Britain, and owns the network in England and Wales.

National Grid will continue to manage the National Gas Emergency Service freephone line 0800 111 999\*.

\* All calls are recorded and may be monitored.