

Occasional Guidance Note

**A memorandum of understanding for potential safety
events network water ingress into gas pipes**



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A MEMORANDUM OF UNDERSTANDING FOR POTENTIAL SAFETY EVENTS

NETWORK WATER INGRESS INTO GAS PIPES

1. Foreword

The water and gas industries continue to work ever more closely together. I recommend this Guidance Note to you as yet another example of our companies putting the safety of customers at the top of our many priorities.

Representatives from both sectors have met with gas experts in the Health and Safety Executive to agree workable priority action should network water get into gas pipes in such a manner as to disrupt service. This Note records that agreement and helps us all to consolidate and improve protection. It is not within the scope of this Note to deal with issues of compensation, nor how to organise and pay for activity within domestic and business premises. We do however believe that a significant step forward has been made for health and safety in the United Kingdom.

I should therefore particularly like to thank Steve Catterall of the Health and Safety Executive, who was the catalyst for this successful agreement, together with David Wilson of the Gas Industry Safety Group, and Rob Gwyther who took the role of Project Manager.

It is now up to each of us to ensure that protection of members of the public becomes ever more effective.

Bob Baty
Water UK Council
10 December 2002

2. Introduction

The Gas Industry Safety Group asked HSE and subsequently Water UK to assist with raising awareness and responses in the water industry about safety critical aspects of network water ingress into gas pipes. Ingress can be from water industry infrastructure carrying untreated, treated or waste water.

There has been concern in the gas industry that on occasions some water organisations have been slow to respond to such safety critical events because the safety aspects of network water ingress have not been made clear. A single meeting was therefore held to pursue our common interest in the safety of gas consumers. Attending the meeting were:

Philip Ashcroft, (formerly) Operations Director, Three Valleys Water Plc
Steve Catterall, HSE Utilities National Group (Chair of the meeting)
Rob Gwyther, Chair: Water UK Health and Safety Group (now: former Chair)
Tony Hodson, Company Solicitor, Three Valleys Water Plc
Jo Parker, Head of Network Asset Management, Vivendi Water Partnership
Alan Thayne, HSE Hazardous Installations Directorate
Barry Watkinson, HSE Head of Gas Safety Policy
David Wilson, Consultant: the Gas Industry Safety Group (now: Assistant Director)

3. Agreement, Publication and Training

Since the meeting, this Occasional Guidance Note (OGN) has been extensively consulted. It records the agreement of the water industry and the gas industry to undertake certain actions in specified circumstances.

The OGN will be published electronically (only) by Water UK for the benefit of water organisations. It is the responsibility of HSE and the gas industry to bring this agreement to the attention of their own constituencies and their other stakeholders.

Water industry organisations are encouraged to amend Emergency Procedures and formally brief all those affected by the agreed actions.

4. Exclusions from the OGN

It is the sole purpose of this OGN to help raise awareness that network water ingress into gas pipes can cause safety problems for gas consumers (as set out in section 5).

This OGN does **not** deal with:

- Activity within customers' properties
- Compensation agreements and liabilities
- Regulatory proposals such as those set out in OFWAT's letter of 04 April 2001

5. Risks

The Gas Industry Safety Group has for the period 1986 - 2000 collated the number of significant events of water ingress into gas pipes ("significant" is where more than 250 supply points have been lost). There have been between two and nine significant events per annum in that period, resulting in an average 3231 interruptions to gas supply points per annum.

It is not known how many of the events arise from the water infrastructure although the number is thought to be considerable and it is therefore crucial for water organisations to respond rapidly when the water or sewerage network has been identified as the source of ingress. This is because the risk to consumers can be profound.

With the extensive use of polyethylene (PE) for new and replacement gas pipes over many years, ground water ingress has reduced. However, with ever increasing activity by all utilities, the number of events of "third party" damage has increased which when coupled to failures in plant from other causes has led to an increasing number of consumers affected by events.

Small quantities of water in the gas distribution network are manageable. Considerable risk to gas consumers can arise however where significant volumes of water enter the network. With the advent of PE systems in particular, pipes can be easily configured into complex arrangements e.g. for routing around other utilities' plant. When water enters the network the risk to consumers arises from water forming seals in undulating pipes, with resultant uncontrolled and often intermittent interruption in gas supply.

When gas supplies are interrupted in this uncontrolled way, a danger to consumers arises if supplies are re-established also in an uncontrolled way, i.e. when the water in the network moves as a result of pressure build up or some other cause. Gas can then flow into consumers' premises where appliances may have been left turned on and in the case of older appliances these may not have flame failure safety devices. In such circumstances an explosive mixture can develop within the property awaiting a source of ignition.

To mitigate any risk arising from water organisation networks, early intervention by water organisations on being made aware of their role in any such incident is vital. Reduction of flow and

prevention of ingress into the gas network is a critical factor in reducing the number of consumers affected and therefore the level of risk.

6. Memorandum of Understanding for Potential Safety Events

If a Gas Transporter (such as Transco) becomes aware at any location that there is ingress of network water into a gas pipe, it is agreed that they will notify the appropriate water organisation that:

- (i) There is ingress
- and (ii) The ingress is from a water organisation pipe
- and (iii) The ingress is clean water or waste water
- and (iv) The ingress is safety critical
- and (v) The location is known (to within 100 metres)

The Gas Transporter should also inform the water organisation whether the source of the leak is local to or distant from the point of ingress (if known).

It is primarily the responsibility of the Gas Transporter to ascertain the appropriate water organisation to contact, particularly in regions where water-only companies are located. However, in cases of difficulty (e.g. where Sewerage Agencies operate), water organisation Control Rooms may be contacted for advice.

The water organisation should treat any safety critical information as a priority, and despatch a repair gang as soon as reasonably practicable to join the Gas Transporter at a safe location and agree a safe system of work for remedial action. The Gas Transporter may wish to enter into local service level agreements with water organisations about timescales for these responses.

If a water organisation is the first to suspect network water ingress into a gas pipe, then the water organisation will promptly notify the Gas Transporter by telephoning the National Gas Emergency number (0800 111 999).

7. Sustainability of this OGN

It is the Gas Transporter's responsibility to inform Water UK about any changes which may affect this Memorandum of Understanding.