

# Updates to Main and Service Laying Procedures

May 2017 / March 2018

## Introduction

The Northern Gas Networks Procedures for Main Laying and Service Laying (the 'Codes of Practice') have received a full review and update as of May 2017, with additional procedures introduced in March 2018.

This briefing note has been produced to provide an outline of the key changes.

## Procedures

The full suite of Main Laying and Service laying procedures now comprises of the below:

- **NGN/PM/MSL/1 – Management Procedure for Main Laying and Service Laying**
- **NGN/PR/ML/1 – Work Procedure for Pipe System Construction – Module 1: General Requirements**
- **NGN/PR/ML/4 – Work Procedure for Pipe System Construction – Module 4: PE Main Laying up to and including 630mm diameters at pressure up to and including 2bar**
- **NGN/PR/ML/6 – Work Procedure for Pipe System Construction – Module 6: Specialist Techniques (introduced in March 2018 with 14 sub-procedures)**
- **NGN/PR/SL/1 – Work Procedure for Service Laying up to and including 63mm diameter at pressures up to and including 2bar**

Previously the suite included the below, **but these have now been withdrawn:**

- **NGN/PR/ML/2**
  - **Now incorporated into NGN/PR/ML/4**
- **NGN/PR/ML/3**
  - **Now incorporated into NGN/PR/ML/4.**
- **NGN/PR/DIS/4.2**
  - **Now incorporated into NGN/PR/ML/4 and NGN/PM/MSL/1.**

## Updated Pipe Types and Sizes

The procedures have been updated to include recently developed pipe types and sizes including:

- Multi-layer (peelable) pipe
- New pipe sizes
- New pipe wall thicknesses (SDRs)

## Newly Developed Techniques

New methods of pipe laying have been included in the main procedures:

- Pipe pushing by JCB attachment
- Serviflex for service insertion
- Window cutting for service connections

A set of 14 specialist procedures have also been introduced, covered later in the briefing note.

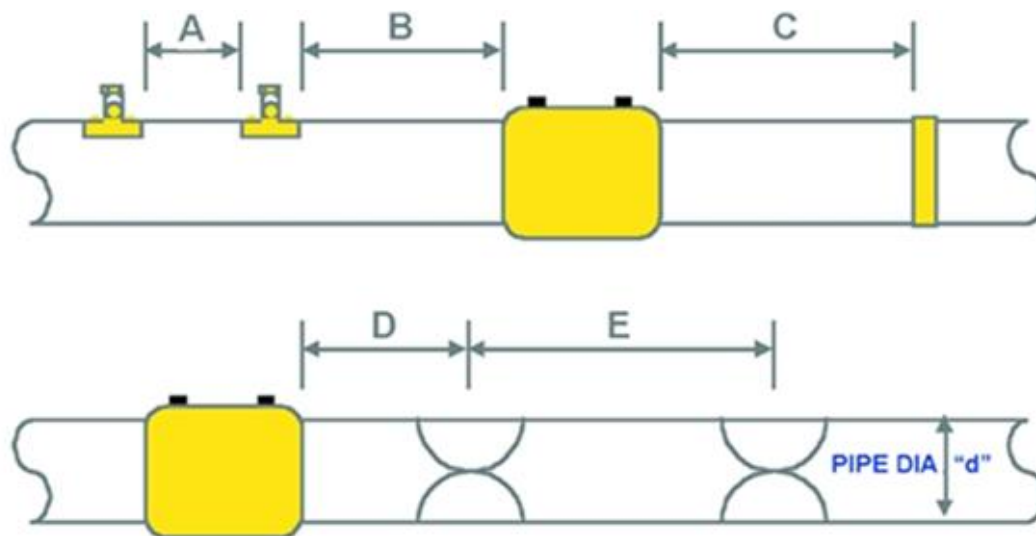
## Proximity Distances

NGN have now adopted the revised proximity distances published within IGEM/TD/3 Edition 5, consequently the distances in the procedures have now been updated to the below:

PE					
Type of Main	Diameter of main (mm)	Minimum Building Proximity Distance (m)			
		≤75 mbar	>75mbar ≤ 2 bar	>2 bar ≤ 5.5 bar	>5.5 bar ≤ 7 bar
PE Non inserted	Up to 125	0.25	2	4	6
	126 to 355	1	2	4	6
	356 to 500	1	2	4	8
	501 to 1000	1	5	13	15
PE Inserted	Up to 125	0.25	1	2	3
	126 to 355	0.5	1	2	3
	356 to 500	0.5	1	2	3
	501 to 1000	0.5	1	3	3
STEEL					
Type of main	Wall thickness of main	≤ 75mbar	>75mbar ≤ 2 bar	>2 bar ≤ 5.5 bar	>5.5 bar ≤ 7 bar
Steel	$t \leq 9.52$	0.25	1	3	13
	$9.52 < t \leq 11.52$	0.25	1	3	6
	$11.92 < t$	0.25	1	3	3

## Separation Distances

The PE separation distances have now been amended to the below:



**A = 50mm Saddle to saddle**

**B = 50mm Saddle to socket or butt**

**C = 50mm Socket to socket, socket to butt**

**C = 500mm Butt to Butt**

**D = 2.5xd Squeeze off to a joint or fitting**

**E = 5xd distance between squeeze off**

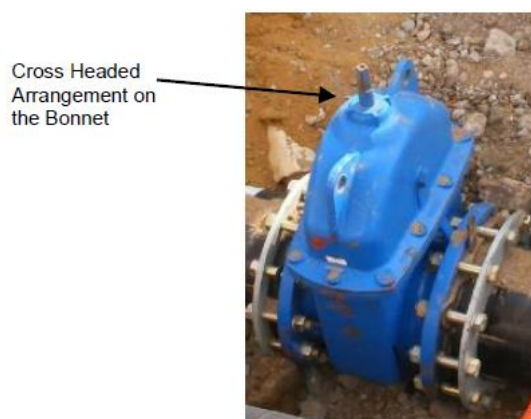
## Precautions for Excavating on AVK Figure 555 Valves

Guidance previously issued as SEB087 for excavating on buried metallic valves has now been incorporated into the procedures. This also applies to valves located within chambers.

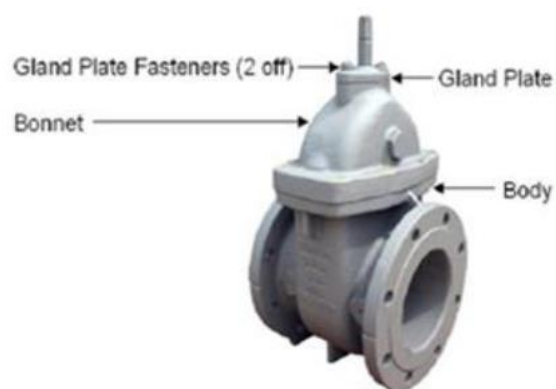
This guidance was originally issued following the discovery of a buried valve failure attributed to siting in extremely corrosive ground conditions. It is in relation to buried metallic AVK valves (formally Donkin) operating at above 45mbar, 80mm to 300mm diameter. It covers gas readings originating from any buried valve arrangement (including pressure points) operating at above 45mbar and visible heavy corrosion on any buried valve operating at above 45mbar.

**TO ENSURE YOUR SAFETY YOU NEED TO IDENTIFY THE TYPE & SIZE OF VALVE PRIOR TO OPERATING OR UNDERTAKING ANY WORK IN THE VICINITY OF VALVES OPERATING AT ABOVE 45MBAR PRESSURE WHERE SUPPORTING GROUND AROUND THE BONNET COULD BE DISTURBED.**

Photographs below show the distinguishing features of the AVK 555 Mk3 and S valves:



**AVK 555 MK3 valve**



**AVK 555 type S valve**

### Valves at risk:

- AVK valve (Mk3 and type S) installed between Jan 2010 and Dec 2012 (operating at above 45mbar, 80mm to 300mm diameter).
- AVK valve tagged with a warning message on GIS.
- Gas readings originating from any valve arrangement (including pressure points) operating at above 45mbar.
- Visible heavy corrosion on any valve operating at above 45mbar.

If the make, size and installation date cannot be determined, the valve must be treated as at risk until otherwise known.

If none of the above applies, follow normal working procedure.

**What you should do if you come across an at risk valve:**

- **STOP WORK AND NOTIFY NGN IMMEDIATELY**

## Anchorage Requirements

Anchorage requirements had previously been documented into NGN procedure NGN/PM/DIS/4.2. These have now been integrated into NGN/PM/MSL/1 along with worked examples.

NGN/PM/DIS/4.2 has consequently been withdrawn.

## Specialist Procedures

A suite of procedures for Specialist Techniques have now been produced (NGN/PM/ML/6). Specialist Techniques provide alternative methods of laying and constructing distribution mains which may be too complex for the traditional methods described in NGN/PR/ML/4.

14 work procedures have been introduced as a starting point, however this will continue to be expanded as new techniques become available:

- NGN/PR/ML/6001 – Flow Stopping PE Mains By Use of Squeeze Off Machines
- NGN/PR/ML/6002 – Flow Stopping PE100, 90mm – 180mm Diameter Mains at Intermediate Pressure By Use of Squeeze Off Machines
- NGN/PR/ML/6003 – Flow Stopping PE100 IP 250mm Diameter Mains By Use Of Squeeze Off Machines
- NGN/PR/ML/6004 – Flowstopping – Iris Stop
- NGN/PR/ML/6005 – Close-Fit PE Linings
- NGN/PR/ML/6006 – Horizontal Directional Drilling (HDD)
- NGN/PR/ML/6007 – Short Stop 60
- NGN/PR/ML/6008 – Short Stop II
- NGN/PR/ML/6009 – Stoppie 1220 Folding Plugger
- NGN/PR/ML/6010 – Welding of Steel Pipelines Up To 7bar Pressure
- NGN/PR/ML/6011 – Hydrostatic Pressure Testing
- NGN/PR/ML/6012 – Large Diameter Branch Connections
- NGN/PR/ML/6013 – Live Mains Transfer
- NGN/PR/ML/6014 – Metallic Flow Stopping Up To and Including 12"/300mm Diameter in Ductile Iron, Cast Iron, Steel & PE Mains BY Use of Twin Bag Tube System on LP Systems

## Endnote

For further information on the updates to the procedures please get in touch with your contact within NGN. Copies of the updated procedures can be made available on request.