Ministerial decree approving the special technical provisions accompanying the Flemish government decree of (...) regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such facilities

Legal basis

This decree is based on:
- Article 4.1.11/8 of the decree of 8 May 2009 laying down general provisions on energy policy, added by the decree of 17 May 2024;
- Decision of the Flemish government of (...) regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such facilities, Article 75.

Procedural requirements

The following procedural requirements have been met:
- The Inspectorate of Finance gave its opinion on 18 November 2025.
- The Council of State gave its opinion xxxxx/x (opinion number) on ... (date), pursuant to Article 84, Section 1, first paragraph, 2°, of the laws of the Council of State, consolidated on 12 January 1973.

THE FLEMISH MINISTER FOR HOUSING, ENERGY AND CLIMATE, TOURISM AND YOUTH AND THE FLEMISH MINISTER FOR ENVIRONMENT AND AGRICULTURE HEREBY DECREE:

Article 1. The special technical provisions referred to in Article 76 of the Flemish government decree of (...) regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such installations, the text of which is included in the annex to this decree, are hereby adopted.

Article 2. This decision takes effect on the day of its publication in the Belgian Official Gazette.

Brussels, (date).

Flemish Minister for Housing, Energy and Climate, Tourism and Youth,

Melissa DEPRAETERE

Flemish Minister for Environment and Agriculture,

Jo BROUNS

Annex to the ministerial decree approving the special technical provisions of the Flemish government decree regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such facilities

Annex. The special technical provisions referred to in Article 75 of the Flemish government decree of (...) regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such facilities.

Chapter 1. Definitions

The definitions contained in the Natural Gas Distribution Safety Code of 2026 apply for the purposes of the provisions of this annex.

The following terms and definitions apply to this annex:

1° Test pressure: the pressure to which the distribution facility is subjected during construction and/or its individual components, pumps and compressors during construction in order to ensure that it can be safely put into operation;
2° Code: 2026 Natural Gas Distribution Safety Code;
3° Certified standards development organisation: standards development organisation as referred to in Section 3.2.2.1.3;
4° Low-pressure distribution line: distribution line with a maximum operating pressure not exceeding 100 millibars;
5° Welding method description: welding method document describing the execution of a weld seam. It contains the necessary information on preparations for welding, the settings of the welding device and information on the materials used (base metal and filler metal);
6° Maximum incidental pressure, abbreviated as MIP: maximum pressure to which a system may be exposed for a short period of time, limited by a safety device;
7° Medium-pressure pipeline, category A, abbreviated as MDA pipeline: pipeline with a maximum operating pressure exceeding 100 mbar, but not exceeding 500 mbar;
8° Medium-pressure pipeline, category B, abbreviated as MDB: pipeline with a maximum operating pressure of more than 500 mbar, but not exceeding five bar;
9° MOP: maximum operating pressure as defined in the natural gas distribution safety code of 1 January 2026;
10° Independent accredited institution: institution independent of the distribution system operator or its representative and independent of the person or organisation providing a product or service, accredited in accordance with ISO/IEC 17020, type A, respectively ISO/IEC 17021 and ISO/IEC 17025, respectively;
11° PE: polyethylene;
12° SDR: ratio of nominal dimensions: numerical designation of a series of pipes that is a practical, round number approximately equal to the ratio of the nominal outside diameter, ND, to the nominal wall thickness;

13° Remote control: remote transmission of a signal that activates the execution of a command by a device, such as opening or closing a valve or adjusting the set pressure;
14° Telemetering: remote transmission of a signal containing the result of measurements of a physical quantity, such as flow rate, pressure and temperature;
15° Telesignalisation: remote signalling via cable or radio waves, which can be used to transmit an alarm or to communicate coded information;
16° Safety factor: factor applied in the calculation of wall thickness or maximum pressure.

Chapter 2. Design of the distribution facility

The components referred to in the code comply with the technical specifications imposed by the distribution network operator, including a description of the:

1° quality and properties of the raw material;
2° product standard(s) to be complied with that determine, among other things, the following properties:
   a) Minimum material-technical requirements;
   b) Production technology, where applicable;
   c) Tests and checks to which the components must be subjected;
   d) Conditions for acceptance and labelling, where applicable.

2.1. Location of the distribution facilities

The distribution lines are laid in open trenches, unless technically impossible.

The following trenchless techniques are generally used in the construction of the distribution lines of the natural gas distribution network:

1° Protective tube: protective tube in which one or more distribution lines are placed;
2° Gas-carrying distribution line: distribution line is in direct contact with the substrate, such as controlled drilling and pressing;
3° Accessible or non-accessible line duct;
4° Pipe bursting.

The distribution network operator takes the necessary measures to ensure that trenchless technology does not adversely affect the integrity of the distribution line, such as using appropriate cladding, and during the installation of steel distribution lines in a protective pipe, ensuring that the protective pipe does not prevent the cathodic protection of the distribution line from functioning properly.

2.2. Technical properties

2.2.1. Pressure control

In accordance with Article 6 of the code, the pressure in the natural gas distribution network must be controlled in compliance with the requirements set out in Sections 2.2.2 to 2.2.4.

2.2.2. Temporary operating pressure (TOP)

For the purposes of this Section 2.2.2, temporary operating pressure, abbreviated as TOP, means the pressure at which a system can be temporarily operated under the control of a regulating device.

Intermediate pressure between the MOP and the MIP that allows the operation of the natural gas distribution network with safety equipment.

For low-pressure pipes, the TOP is a maximum of 150% of the MOP.

For MDA pipes, the TOP is maximum 150% of the MOP.

For lines MDB, the TOP is maximum 130% of the MOP.

For MDC pipes, the TOP is maximum 120% of the MOP.

2.2.3. Maximum incidental pressure (MIP)

The MIP of the natural gas distribution network must be lower than the test pressure for the mechanical resistance test of the natural gas distribution network.

2.2.4. Pressure ratio of MIP-MOP

A pressure control installation in the natural gas distribution network must maintain the pressure in the downstream section within the required limit values.

For low-pressure pipes, the MIP is a maximum of 250% of the MOP.

For MDA pipes, the MIP is maximum 175% of the MOP.

For MDB pipes, the MIP is maximum 140% of the MOP.

For MDC pipes, the MIP is maximum 130% of the MOP.

Depending on the history of the natural gas distribution network and materials on the natural gas distribution network, the distribution network operator may opt for a MIP value that is lower than the maximum MIP value.

2.2.5. Natural gas distribution network equipment

Components used in the natural gas distribution network must be in accordance with the applicable product standard. This takes into account the characteristics of the network concerned, in particular the MOP and MIP.

The safety systems must be designed so that the applicable MIP value is not exceeded anywhere in the natural gas distribution network.

2.3. Protection of distribution facilities against corrosion

2.3.1. Passive corrosion protection of buried steel distribution lines

The cladding of the distribution lines has mechanical and electrical properties that are adapted to the environment during construction and operation. The cladding complies with the applicable standard at a minimum. The adhesion is such that local damage to the cladding does not affect the adjacent cladding and that the cladding does not come loose over time as a result of that damage.

2.3.2. Active corrosion protection of buried MD steel distribution lines

The current for the cathodic protection originates from current withdrawal devices on the rail or on anodes. The current is direct current. A galvanic anode can also be used for local protection.

The quantity, power and position of the current extraction devices have been chosen so that the maximum value of the protection potential in a static regime is -0.85 V (Cu/CuSO4). The cathodic protection flow must be adapted to the properties of the distribution line, taking into account the quality of the insulation of the cladding, the connections with other structures and other influences known to the distribution system operator.

In order to measure their potential, the distribution lines must be equipped with at least one potential measuring point per 3 km of distribution line, except in residential zones, where one potential measuring point per kilometre of distribution line is provided.

At special crossings, such as pressings, drillings, above-ground crossings and protective sleeves, provisions are made to allow for effective corrosion protection.

All distribution facilities must be equipped with galvanic separation between the above-ground and underground sections.

Under specific special conditions, namely the entrance to above-ground distribution facilities connected to a polyethylene network, exceptions to the principle of active protection for buried steel centre pressure pipes are permitted.

2.4. Materials and components

2.4.1. Steel material specifications

2.4.1.1. General

Steel pipes and other pipe components in steel are in accordance with the relevant European or international standards.

2.4.1.2. Welding

The mechanical resistance (tensile strength) and impact values of the welded joints (welding and heat-affected zone) must be at least equal to those of the base material of the steel pipes.

2.4.1.3. Weldability

Pipes and pipe components are weldable under site conditions. To achieve this, the carbon equivalent (CE_{uw}) of pipes and components must be less than or equal to 0.45 for steel grades, not exceeding the minimum yield stress of 360 MPa. CE_{uw} is calculated using the following formula:

$$CE_{IIW} = C + \frac{Mn}{6} + \frac{(Cr + Mo + V)}{5} + \frac{Cu + Ni}{15} \leq 0{,}45$$

Weight percentage of:

1° C = carbon composition;
2° Mn = manganese composition;
3° Cr = chromium composition;
4° Mo = molybdenum composition;
5° V = vanadium composition;
6° Cu = copper composition;
7° Ni = nickel composition.

The following applies to all types of steel:

1° Carbon content does not exceed 0.28%;
2° Sulphur content does not exceed 0.035%;
3° Phosphorus content does not exceed 0.035%;
4° The sum of sulphur and phosphorus calculated on the basis of the melting analysis, does not exceed 0.050%.

2.4.2. Steel pipes

2.4.2.1. Production

Pipes are either seamless or welded longitudinally (High Frequency Welded, abbreviated as HFW, and Submerged Arc-Welded/Longitudinal, abbreviated as SAWL) or helically (Submerged Arc-Welded/Helical, abbreviated as SAWH) and are made from fully-killed steel, produced according to fine-grain practice.

2.4.2.2. Wall thickness

The dimensional characteristics prescribed in the applicable standard are followed.

The minimum wall thicknesses are those specified in the following table:

	Smooth welded pipes, non-screwable and weldable		Welded or seamless pipes, screwable and weldable	
Nominal diameter ND (mm)	Outer diameter D (mm)	Nominal minimum wall thickness s	Outer diameter D (mm)	Nominal minimum wall thickness (mm)

		(mm)		
10	17.2	2.3		
15	21.3	2.3	21.3	3.25
20	26.9	2.6	26.9	3.25
25	33.7	2.6	33.7	4.05
40	48.3	2.6	42.4	4.05
50	60.3	2.9	48.3	4.50
65	76.1	2.9		
80	88.9	3.2		
100	114.3	3.2		
125	139.7	3.6		
150	168.3	4		
200	219.1	4.5		
250	273	5		
300	323.9	5.6		
350	355.6	5.6		
400	406.4	6.3		
500	508	6.3		
600	610	6.3		
>600	>610	1% D		

2.4.2.3. Mechanical properties

The mechanical properties prescribed in the applicable standard are followed.

2.4.2.3.1. Tensile tests

For the base material, the ratio between the elasticity limit (Re) and tensile strength (Rm) of the metal, determined by tests, may not exceed 0.93.

The elongation with a break is at least 18%.

For welded joints, the tensile strength must be at least equal to the specified values for the base material.

2.4.2.3.2. Impact values

Impact tests are carried out in accordance with the product standard of the pipe in question.

2.4.2.4. Dimensional properties

The dimensional properties prescribed in the applicable standard are followed.

2.4.2.5. Testing and factory checks

All pipes are subjected to the tests specified in the applicable standard.

The following tests are carried out at the factory at a minimum:

1° For pipes ≤ 168.3 OD, a leak test carried out by hydrostatic test or by electromagnetic examination;
2° Each pipe is subjected to a non-destructive examination for the absence of internal faults over its entire length and surface.

2.4.2.6. Proof of conformity to be provided by the supplier

A manufacturer’s certificate is issued for each lot produced in accordance with standard NBN EN 10204.

2.4.3. Steel fittings

Fittings are defined as all weldable pipe components, including smooth bends, T-pieces with and without reducers, eccentric reducers, concentric reducers and convex bottoms.

2.4.3.1. Production

Fittings are produced in accordance with the applicable product standard or in the absence thereof, in accordance with relevant European or international standards.

2.4.3.2. Wall thicknesses

The minimum wall thicknesses are determined according to the formulas in the applicable standard. A safety factor S of 1.5 is taken into account in the calculation.

2.4.3.3. Mechanical properties

The mechanical properties described in the applicable standard are followed.

2.4.3.4. Dimensional properties

The dimensional properties described in the applicable standard are followed.

2.4.3.5. Testing and factory checks

The tests and factory checks in accordance with the applicable standard are followed.

2.4.4. Steel flanges

2.4.4.1. Production

Flanges are manufactured in accordance with the applicable product standard or in the absence thereof, in accordance with relevant European or international standards.

2.4.4.2 Wall thicknesses

Wall thicknesses at the welding ends must comply with the values set out in Section 2.4.2.2.

2.4.4.3. Mechanical properties

The mechanical properties prescribed in the applicable standard are followed.

2.4.4.4. Dimensional properties

The dimensional properties prescribed in the applicable standard are followed.

2.4.4.5. Testing and factory checks

The tests and factory checks in accordance with the applicable standard are followed.

2.4.5. Polyethylene pipes

The PE pipes comply with the requirements of standard NBN EN 1555-2.

The PE pipes used for distribution facilities are suitable for a MOP of 10 bar in accordance with standard NBN EN 1555-2.

The pipes are made from raw materials belonging to class PE 100 according to the product standard NBN EN 1555-1.

The pipes are produced by extrusion.

The pipes belong to the SDR11 or 17 series, as shown in the following table:

Nominal diameter	Maximum average outer diameter	Minimum wall thickness	
		SDR 17	SDR 11
32	32.3	-	3.0
40	40.4	-	3.7
63	63.4	-	5.8
110	110.7	6.6	10
160	161.0	9.5	14.6
200	201.2	11.9	18.2
315	316.9	18.7	28.6
450	452.7	26.7	40.9

If required by the specific conditions at the facility, pipes with a greater wall thickness may also be used in those specific cases, subject to the agreement of the distribution network operator.

2.4.5.1. Tests to be carried out at the factory

Resistance to slow crack formation: the test is carried out on SDR11 pipes using the test method described in NBN EN 1555-2.

Resistance to the propagation of brittle fractures: the test is carried out on SDR11 pipes using the test method described in NBN EN 1555-2.

Thermal stability: the test is carried out on SDR11 pipes using the test method described in NBN EN 1555-2.

Resistance to internal water pressure of a welded sample: at least one of the three tests described in standard NBN EN 1555-2 is carried out.

2.4.5.2. Proof of conformity to be provided by the supplier

The supplier provides a certificate of conformity in accordance with the requirements of the distribution system operator.

2.4.6. Polyethylene fittings

PE fittings, namely electrofusion fittings, electrofusion saddles and fittings with smooth ends, comply with the requirements of standard NBN EN 1555-3.

PE fittings used for distribution facilities are suitable for an MOP of 10 bar in accordance with standard NBN EN 1555-3.

The fittings are made from raw materials belonging to class PE 100 in accordance with product standard NBN EN 1555-1.

The fittings are injection-moulded.

Metal parts subject to corrosion are protected in such a way that prevents rust formation until installation, such as using a spray or shielding with a cap.

The dimensions and corresponding maximum tolerances of the fittings are in accordance with standard NBN EN 1555-3.

Fittings comply with the requirements and tests, including hydrostatic tests, described in the chapter on mechanical properties in standard NBN EN 1555-3.

2.4.6.1. Proof of conformity to be provided by the supplier

The supplier provides a certificate of conformity in accordance with the requirements of the distribution system operator.

2.5. Properties of the natural gas distributed

In accordance with Article 10 of the code, the purpose of the prescribed properties is to ensure that the vast majority of the population:

1° is able to detect the natural gas through the odour before the concentration of the natural gas reaches 20% of the LEL;
2° is alarmed by the odour;
3° is able to notify the distribution system operator and take the necessary measures to protect themselves.

The permitted odorants and minimum and maximum concentration are determined by the rules of the distribution system operator.

Odourisation takes place at the latest at the receiving station or at the injection point of the natural gas into the natural gas distribution network. The natural gas can be odorised by the transporter, distribution system operator or producer of the natural gas.

If the natural gas is not odorised by the distribution system operator, consultations must take place with the distribution system operator on the design and operation of the distribution system for the odourisation of the natural gas.

The distribution system operator determines the odour substance to be used.

2.6. Location indication of the distribution lines

Above an underground MDC distribution line, a warning network or warning tape must be installed at the installation or replacement of that distribution line. This is recommended for the other distribution lines.

Chapter 3. Installation and testing

3.1. Transport, storage and condition inspections

Components are carefully loaded, unloaded, transported and stacked to avoid damage.

The components are checked and inspected for any damage, deformation and/or corrosion in accordance with the technical provisions of the distribution network operator before being installed.

Components with damage, deformation and/or corrosion that are deemed unacceptable by the distribution network operator may not be installed.

3.2. Steel

3.2.1. Directional changes of the distribution facility

Directional changes in the horizontal and vertical surface can take place through elastic deformation, cold curved bends or mouldings.

Welding of diagonally cut straight sections to create curves is prohibited. By way of exception, the diagonal cutting of the pipes may be permitted if, in order to obtain a slight curvature, a moulding piece must be cut off in order to obtain two welds with a spacing of less than 3 cm.

3.2.1.1. Bends formed at the site through cold bending

The pipes can be cold bent on site according to a qualified procedure and using appropriate equipment. The cold bending of the tubes does not cause any damage to the pipe material or cladding.

3.2.1.1.1. Pipe diameters > DN50

The cold bending of pipes is done with a machine that is accepted by the distribution system operator. The minimum bend radius is greater than 40 times the outer diameter. In the curvature area, the ovality, which is the deviation between the maximum and the minimum outer diameter, is no greater than 4% of the nominal diameter:

$$\frac{2(Dmax-Dmin)}{(Dmax+Dmin)} \leq 0.04$$

Dents and creases in the curvature area are prohibited.

3.2.1.1.2. Pipe diameters ≤ DN50

These are pipes that are mainly used to make connections and that have the specific properties necessary for bending with a bending radius that can be at least three times the nominal pipe diameter. Coated steel pipes are only creased with suitable creasing moulds.

With longitudinal welded pipes, the weld seam must be placed in the neutral fibre during creasing. Deviations up to +/- 15° from the neutral fibre are allowed.

At each end of the curve should be a straight length of at least once the nominal diameter, with a minimum length of 0.5 m.

3.2.1.2. Moulded parts

Moulded parts comply with the requirements set out in Sections 2.4.1 to 2.4.4.

3.2.1.3. Elastic deformation

When installed in a trench, due to the elasticity of the pipes, directional changes with a large bend radius can be compensated for without the use of moulded parts.

The following table shows the minimum bend radius (R_{min}) in relation to the nominal pipe diameter. The minimum bend radius is calculated using the following formula:

$$R_{min} = 206 \left(\frac{S}{Rt_{0,5}} \right) D$$

where:

1° S: safety factor 1.5 (according to standard NBN EN 12007-3);
2° $Rt_{0.5}$: 0.5% yield stress of the steel type used

The following table applies to steel with a yield stress of 235 N/mm².

DN	**D (mm)**	**Rmin** (meter)
80	88,90	117
100	114,30	150
150	168,30	221
200	219,10	288
250	273,00	360
300	323,90	430
350	355,60	470
400	406,40	535
500	508,00	670
600	610,00	805
700	711,00	935
800	813,00	1.070

DN
D(mm)
Rmin (meter)

DN
D (mm)
R min (metres)

3.2.2. Connections

3.2.2.1. Welds

3.2.2.1.1. General

Any cold deformation of the pipe ends resulting in plastic deformation must be avoided.

3.2.2.1.2. Businesses

The businesses entrusted with welding activities must demonstrate expertise in carrying out the requested welding work in accordance with Sections 3.2.2.1.3 to 3.2.2.1.7.

3.2.2.1.3. Welding method description and qualification

All welding must be carried out in accordance with qualified welding method descriptions that meet the requirements set out in a standard issued by one of the following recognised standards development organisations, with proof of qualification issued by an independent accredited body:

Organisation	Abbreviation
Arbeitsgemeinschaft Drukbehälter	AD
Association Française de Normalisation	AFNOR
American Petroleum Institute	API
American Society of Mechanical Engineering	ASME
American Society Testing & Materials	ASTM
British Standards Institution	BSI
Comité Européen de Normalisation	CEN
Deutsches Institut für Normung	DIN
International Organization for Standardization	ISO
Manufacturers Standardization Society of the Valve and Fittings Industry	MSS
National Association of Corrosion Engineers	NACE
Belgisch Bureau voor Normalisatie	NBN
Nederlands Normalisatie Instituut	NEN

3.2.2.1.4. Welders and laser operators

In accordance with Article 28 of the code, all welding work is carried out by certified welders and/or welding operators. The certificate of certification is issued by an independent accredited institution. The welder has proof of this certification at the construction site.

3.2.2.1.5. Staff responsible for the supervision and coordination of welding activities

For purposes of welding coordination, the distribution system operator may only employ staff with the technical knowledge necessary for the proper performance of the tasks.

The welding coordinator with final responsibility has a level of knowledge that corresponds at least to that of an International Welding Specialist.

3.2.2.1.6. Welding consumables

Only material conforming to the qualified welding method description may be used as a welding consumable.

3.2.2.1.7. Welding

The welding of gas-carrying pipes, fittings, flanges, valves or other structural elements must be carried out in accordance with the welding procedure specifications referred to in Section 3.2.2.1.3. Weld seam preparation is tailored to the welding joint and chosen welding process. Weld seam preparation must meet the requirements set out in the welding procedure description referred to in Section 3.2.2.1.3.

3.2.2.1.8. Documentation

The welding coordination documentation described in Section 3.2.2.1.5 contains a list of qualified welding method descriptions, as well as a list of qualified welders.

3.2.2.2. Flange joints

With non-entrenched distribution facilities, the use of flange connections is always permitted.

In entrenched distribution facilities, flange connections are only used where welded connections are difficult to implement.

3.2.2.3. Screw connections

The external screw thread is always conical, while the internal screw thread always cylindrical.

If a conical external thread is screwed into a cylindrical internal thread, they form a gas-tight metal-to-metal connection.

3.2.2.4. Other connections

To connect new components to existing components made from a different type of material, specialised techniques are used, such as shrink connections, mechanical connections and tensile-strength couplings.

3.2.3 Inspections

3.2.3.1. Welding inspections

3.2.3.1.1. General

All non-destructive inspections are carried out in accordance with procedures documented by the distribution system operators and that comply with the requirements set out in the standards issued by a recognised standards development organisation referred to in Section 3.2.2.1.3.

The type and percentage of non-destructive inspections must be in accordance with the standards issued by a recognised standard development organisation.

Radiographic or ultrasonic tests are used for blast welding for circular welding and for longitudinal welding.

Magnetic and/or penetrant testing is used for fillet welds.

3.2.3.1.2. Staff responsible for testing and inspections

Soaping weld seams is considered non-destructive testing that does not require qualification or certification.

The visual examination of welds must be carried out by staff trained for this purpose. The other non-destructive checks on welding seams must be carried out by certified staff for which the proof of certification has been issued by an independent accredited body.

3.2.3.1.3. Documentation

The construction data of a distribution facility and corresponding results of the non-destructive checks must be archived by the distribution system operator.

3.2.4. Cladding used at the site, including painting of parts without cladding

The cladding used at the site has the following objectives:

1° Repair damaged cladding;
2° Protect steel components or parts of components that were not initially clad.

The cladding used at the site overlaps the initial protection and is installed in accordance with the specifications of the supplier and/or distribution network operator.

The cladding used at the site is also adapted to the construction technique, including horizontally controlled drilling. The installation of cladding at the site is carried out by qualified staff that are adequately trained and have all the necessary equipment, materials and tools to perform the task properly.

The insulation of steel distribution lines is inspected with a spark tester in accordance with the technical specifications of the distribution network operator.

The inspection is carried out above ground before the distribution line is placed in the trench or in the trench after installation.

Any defective cladding is repaired and re-inspected.

Connection points for cathodic protection are protected by cladding compatible with the original cladding used.

3.3. Polyethylene

3.3.1. Directional changes of the distribution line

The directional changes of the distribution line in the horizontal and vertical plane can be achieved with moulded parts or elastic deformation of the pipe.

Directional changes with a radius of more than twenty times the outer diameter can be made without the use of moulded parts.

Using bends formed by welding diagonally cut straight pieces is prohibited.

3.3.2. Connections

3.3.2.1. Welds

3.3.2.1.1. Businesses

Businesses entrusted with welding activities must demonstrate expertise in carrying out the requested welding work.

The reference standard is standard NBN T42-011 ‘Polyethylene (PE) pipe systems – Guidelines for the training, qualification and re-testing of welders for butt welding and electric welding’.

3.3.2.1.2. Welding procedure and qualification

All welding work is carried out in accordance with qualified welding procedures in line with standard NBN T42-010 ‘Polyethylene (PE) pipe systems - Guidelines for carrying out butt welding and electric welding’. Only method A from that standard is permitted for butt welding of gas pipes.

3.3.2.1.3. Welders

All welding must be carried out by qualified welders in accordance with standard NBN T42-011 ‘Polyethylene (PE) pipe systems – Guidelines for the training, qualification and re-inspection of welders for butt, sleeve and electric welding’.

3.3.2.1.4. Equipment

Only types of polyethylene welding devices and polyethylene scrapers accredited by the distribution system operator can be used.

3.3.2.1.5. Welding

Butt welding technique: Butt welding is permitted for pipe diameters (ND) of 90 mm or larger.

Electric welding technology: Electric welding is permitted for all diameters.

3.3.2.2. Flange joints

Flange connections between polyethylene and steel (flange adapters) may only be used where fixed transition pieces are impractical and after consultation with the distribution network operator.

3.3.2.3. Screw connections

Tapping a screw thread directly into or onto the polyethylene material is prohibited.

3.3.2.4. Other connections

To connect new components to existing components made from a different type of material, specialised techniques are used, such as shrink connections, mechanical connections and tensile-strength couplings.

3.3.3. Inspections

Butt welding is inspecting during the following two stages:

1° Inspection of the welding method;
2° Inspection of the weld.

The inspection is carried out in accordance with the technical provisions of the distribution network operator.

3.4. Lowering and filling

Prior to filling, the distribution lines are checked and inspected for damages and deformations in accordance with the technical provisions of the distribution system operator. The lowering into the trench and filling of the trench are carried out in accordance with the technical provisions of the distribution network operator, so that no unacceptable stresses or damage can occur in the various components of a distribution facility.

The trench is filled in layers. Special attention is given to the filling material used. The filling material must be compatible with the cladding of the distribution lines. If necessary, special protective measures may be provided around the distribution line and a warning net or ribbon may also be placed.

If the minimum excavation depth of the distribution line referred to in Article 14 of the code cannot be respected at the time of installation, special measures must be taken at the direction of the distribution system operator, such as:

1° Indication of the depth on the distribution system operator’s installation plan;
2° Mechanical protection in accordance with the technical provisions of the distribution system operator.

Mechanical protection must be provided above the service line on public land if the minimum coverage of the service line cannot be respected.

No protection is provided in the area where the service line passes through the wall. If the minimum distances from other pipelines or infrastructure cannot be

maintained as specified in Articles 16 and 17 of the code, additional protection must be installed between the two infrastructures in accordance with the technical provisions of the distribution network operator.

In the event of crossing of two distribution lines, the protection must have a minimum length of 0.5 m. If the nature of the products transported in the other pipe or infrastructure in the vicinity may cause damage to the distribution line, the minimum distance referred to in Articles 16 and 17 of the code is doubled or protection installed.

3.5. Cleaning

Care must be taken to keep the pipes internally clean during the work. During the work, the necessary inspections are carried out and protective caps are installed where required.

3.6. Mechanical resistance and density tests

3.6.1. General

The use of air or an inert natural gas is always permitted.

Tests may only be carried out after all precautions have been taken to ensure the safety of the staff carrying them out.

3.6.2. Mechanical resistance test

Components and combinations that have already been subject to a preliminary mechanical resistance test during production at a pressure at least equal to the pressure of the resistance test referred to in Section 3.6.4 do not need to be subjected to the mechanical resistance test of the entirety at the site.

The mechanical resistance test may be carried out with water if damage or unsafe situations may occur when testing with air or an inert natural gas. In this case, the distribution line must be filled in such a way that air inclusions are avoided as far as possible on the one hand and on the other, that the minimum test pressure is achieved at all high points and the maximum test pressure is not exceeded at any low point.

3.6.3. Density test by means of pressure test

Density is considered sufficient if pressure increases or pressure decreases occurring during testing in their entirety can be adequately justified according to the laws of physics.

3.6.4. Parameters

The parameters for performing the mechanical resistance and density tests are listed in the following table:

<table>
<tr><td colspan="5"></td><td colspan="2">Minimum duration in hours</td></tr>
<tr><td colspan="5"></td><td>Minimum pressure</td><td>Distribution line</td><td>Service line</td></tr>
<tr><td rowspan="2">LD air or inert natural gas</td><td colspan="2">Combined test</td><td>Manometer/foaming agent</td><td>1 bar</td><td>1 hour</td><td>1 hour</td></tr>
<tr><td colspan="2">< 100 m</td><td>Foaming agent</td><td>Operating pressure</td><td colspan="2">Long enough to check all welds/joints</td></tr>
<tr><td rowspan="2">MDA air or inert natural gas</td><td colspan="2">Combined test</td><td>Manometer/foaming agent</td><td>1 bar</td><td>1 hour</td><td>1 hour</td></tr>
<tr><td colspan="2">< 50 m</td><td>Foaming agent</td><td>Operating pressure</td><td colspan="2">Long enough to check all welds/joints</td></tr>
<tr><td rowspan="2">MDB air or inert gas</td><td colspan="2">Combined test</td><td>Manometer/foaming agent</td><td>7.5 bar</td><td>6 hours</td><td>1 hour</td></tr>
<tr><td colspan="2">< 50 m</td><td>Foaming agent</td><td>Operating pressure</td><td colspan="2">Long enough to check all welds/joints</td></tr>
<tr><td rowspan="4">MDC air, inert natural gas or water</td><td rowspan="3">Option 1</td><td>Resistance</td><td>Manometer</td><td>22.5 bar</td><td>6 hours</td><td>1 hour</td></tr>
<tr><td rowspan="2">Density</td><td>Manometer</td><td rowspan="2">5 bar</td><td>6 hours</td><td>1 hour</td></tr>
<tr><td>Foaming agent</td><td>1 hour</td><td>1 hour</td></tr>
<tr><td>Option 2</td><td>Combined test</td><td>Manometer</td><td>22.5 bar</td><td>6 hours</td><td>1 hour</td></tr>
</table>

Tests may not commence until the test pressure has been reached.

For PE MDC pipes for which the MOP does not coincide with the pressure classes specified in the code, the test pressure is determined as follows:

1° Minimum test pressure: 1.5 x MOP;
2° Maximum test pressure: (20 x MRS) / (SDR – 1).

In the third paragraph, 2°, MRS means ‘minimum required resistance’, namely the LCL value rounded down to the nearest lower value of the R10 series or the R20 series in relation to the LCL value.

3.6.5. Density test by soaping

The connections are soaped at service pressure for the required amount of time, provided that all welds and connections between components are accessible.

The connections to be inspected must be free of all obstructions that may affect testing.

The seal is considered adequate if no leaks are detected during the soap test.

Chapter 4. Start-up of operations

4.1. Start-up of natural gas operations at distribution facilities

A distribution facility may only be used for natural gas operations if the density and resistance tests referred to in Sections 3.6.1 to 3.6.5 have been successfully carried out in accordance with Article 33 of the code.

If the distribution facility is not put into operation immediately after construction, it must be left under pressure with air or inert natural gas.

Continuous ventilation is always ensured when the distribution facility is ventilated.

All necessary precautions are taken during the start-up of natural gas operations at distribution facilities in order to eliminate possible sources of ignition such as the installation of equipotential connections and earthing tape in PE.

The necessary preparations are made so that the gas mixture discharged does not pose any danger to the immediate environment.

The distribution line system is equipped with the necessary blow-off points.

Flushing continues until a concentration of 100% natural gas is reached at the blow-off points.

The gas flow is monitored during the natural gas conversion process using the appropriate means. After the distribution line has been flushed, it can be pressurised in a controlled manner.

4.2 Construction data

The distribution system operator must have the construction data referred to in Sections 4.2.1 to 4.2.3.

4.2.1. For steel distribution lines

1° As-built plans;
2° Distribution line: diameter - wall thickness - type of material - type of cladding;
3° Welding: results of non-destructive examination of welds;
4° Tests: test results (see Section 3.6);
5° Results of insulation inspection.

4.2.2. For PE distribution lines

1° As-built plans;
2° Distribution line: nominal diameter - SDR - type of material;
3° Tests: test results (see Section 3.6).

4.2.3. For service lines

1° Service line: nominal diameter - type of material;
2° Tests: test results (see Section 3.6).

Chapter 5. Distribution facility inspection

5.1. General

The distribution network operator monitors the distribution facilities of its natural gas distribution network in order to ascertain the:

1° Proper functioning of the distribution facilities;
2° Impact of consumption on the grid and its evolution.

Depending on the properties of the network, including the number of pressure reduction stations, length of the network, number of distribution network users and their geographical distribution, the following inspection methods may be used:

1° Systematic detection of gas indications;
2° On-site inspections of distribution facilities, either at own initiative or following a request from third parties;
3° Carrying out measurements, such as pressure and flow rate;
4° Telesignalisation, telemetering, telecontrol.

Inspections of distribution facilities other than those referred to in the first paragraph may be carried out in the context of:

1° Maintenance to those distribution facilities (station/cabin maintenance);
2° Carrying out of specific activities, such as the cathodic protection (protection against corrosion) or odourisation of the natural gas.

5.2. Remote monitoring and control

5.2.1 General

The remote control of a distribution network is carried out by means of various control systems. Their safety is ensured by various safety systems.

Telemetering is generally carried out at the receiving stations as follows:

1° Pressures at the inlet and outlet points;
2° Flow rates;
3° Temperature.

The distribution system operator is responsible for evaluating whether it is technically and economically appropriate to install a telemetering, telesignalisation or telecontrol system in certain distribution facilities in its network.

5.2.2 Monitoring and control

5.2.2.1 Telemetering and telesignalisation

Remote monitoring takes place through process measurements, such as temperature, flow rate and pressure, which can generate alarms when certain pre-set thresholds are exceeded. Depending on the nature of the alarms, the distribution network operator takes the necessary measures and, if necessary, sends a representative to the site to assess the situation and, in the event of technical anomalies, to remedy them.

5.2.2.2. Remote control

Any remote control that the distribution system operator considers relevant for safety is subject to a periodic performance test.

5.3. Distribution line inspection

5.3.1. General

The distribution system operator carries out various inspections and performs the following actions on the distribution lines:

1° Systematic detection of gas indications (Section 5.3.2);
2° Coverage of the distribution lines in case of third-party work activities (Section 5.3.3);
3° Inspections and maintenance of special passages (Section 5.3.4).

5.3.2. Systematic detection of gas indications

The presence of gas indications is detected by systematic inspections carried out at a standard or variable frequency, depending on the factors mentioned in Section 5.3.2.1.

The sections of the distribution lines located in closed stations belonging to the distribution network operators are not included in the systematic detection of gas indications, as they are regularly inspected by the distribution network operator.

Distribution lines that have been permanently taken out of service are no longer subject to inspection.

5.3.2.1. Frequency of systematic detection of gas indications

In order to determine the frequency of the systematic detection of gas indications, the distribution system operator takes the following factors into account:

1° Nature of the contamination;
2° History of the leaks;
3° Nature of the subsoil;
4° Location of the distribution lines;
5° Age of the distribution lines.

However, if, due to external factors, such as meteorological factors, health factors, etc., the distribution network operator is temporarily unable to carry out the systematic detection of gas indications properly, inspections must resume as soon as normal external conditions are restored.

5.3.2.2 Detection of gas indications

The detection of gas indications is carried out using appropriate technology.

The following technologies can be used for overhead inspections of underground distribution lines:

1° Flame ionisation detector;
2° Laser;
3° LED.

However, detection techniques other than those referred to in the second paragraph may be used, provided that they offer the same guarantees of detection and are documented.

The entirety of the distribution lines of the natural gas distribution network are assessed over a period of seven years. If a gas indication is detected, the distribution network operator must take the necessary measures, taking into account the urgency of the situation, as specified in Chapter 10.

5.3.3 Checking coverage of distribution lines

The inspection of the coverage of distribution lines by the distribution system operator is only carried out if the distribution system operator supervises work carried out by third parties. The trenches are filled in accordance with Section 3.4.

In addition to the methods mentioned in Section 3.4, the distribution network operator may also require the lowering and/or relocation of the distribution lines if the distribution lines are insufficiently buried.

5.3.4 Inspections and maintenance of special passages

Parts of the line section constructed using special techniques may require a special inspection method. This applies in particular to above-ground passages and underground passages.

5.3.4.1 Above-ground passages

Depending on the accessibility of the passage, inspections are organised as follows:

1° Visual inspection of passages that are accessible without aids. The inspection focuses on the detection of external damage to the parts of the distribution lines visible from the ground floor and of the condition of the supports;
2° Visual inspection that require scaffolding, elevated platforms, under-bridge platforms and special ladders for an external inspection of the entire passage, including support and suspension.

Depending on the technique chosen, the risk of damage from external factors and degree of protection of the distribution line, the distribution system operator organises an inspection.

If necessary due to the findings made during the visual inspection, the distribution system operator carries out an additional inspection or maintenance to remedy any defects.

5.3.4.2 Underground passages

Underground crossings with obstacles can be constructed using passage techniques that are accessible or inaccessible to humans.

5.3.4.2.1 Inaccessible passages

The following passages are inaccessible to humans:

1° Pressure drilling;
2° Steered drilling;
3° Buried pipes;
4° Jacket pipes.

The inaccessible passages referred to in the first paragraph and the distribution line may be protected against external corrosion by cathodic protection.

Apart from the controls for the distribution lines equipped with cathodic protection, no inspection programme is prescribed for the inaccessible passages.

5.3.4.2.2 Accessible passages

In passages accessible to humans, such as pipe ducts or technical jacket pipes, the general external condition and support of the distribution line are inspected. The general condition of the jacket pipe, if any, is also checked for deformation, corrosion, etc.

5.4. Connection inspection

5.4.1 Inspection of the part located in the public area

The detection of gas indications on the section of the connection to the public area is carried out as part of the systematic detection of gas indications on the distribution lines as mentioned in Section 5.3.2.

5.4.2. Inspection of the part that is not in the public area

The distribution system operator’s staff carries out a visual inspection of the part of the connection that is directly accessible in the case of technical interventions at the connections, whether carried out on own initiative or at the request of a third party.

The inspection of that part is not carried out in the context of the systematic detection of gas indications.

Chapter 6. Corrosion protection

6.1. Principles

Buried or submerged distribution lines are equipped with an ‘active and/or passive’ external corrosion protection system as specified in Section 2.3.

For the cathodic protection distribution facilities in operation, the following risks are identified:

1° Poor functioning of the cathodic protection system;
2° Non-compliance with the cathodic level of protection;
3° New external influences not under the control of the distribution system operator that influence the cathodic protection system.

The operation and efficiency of a cathodic protection system is largely determined by the periodic evaluation of its correct functioning and by maintenance activities. Measurements and actions performed on cathodic protection installations are carried out by persons deemed competent for those tasks by the organisation employing them or by a certification body.

6.2. Evaluation of the functioning of the cathodic protection system

The proper functioning of the cathodic protection system is evaluated annually. The evaluation may relate to several distribution lines that are interconnected. The evaluation relates to the ad hoc measurement results of the:

1° Conformity of the protective measures;
2° Condition and proper functioning of the cathodic protection systems;
3° Reaction of the cathodic protection system to the consequences of the changes in the operating conditions (new influences).

6.2.1. Inspection of conformity of protection measures

The maximum value of the protection potential in a static regime is -0.85 Vcse. That potential, measured against the copper sulphate reference electrode, also takes into account the inaccuracies of industrial measuring devices.

In certain cases, it cannot be excluded that the guide values of the protection potentials may be briefly exceeded by external influences.

In areas with very high or heterogeneous soil resistance or in the event of shielding effects or stray currents, a temporary exceedance of the potential values cannot be completely ruled out. In such cases, the distribution network operator applies the cathodic protection system to the extent possible and, if economically acceptable, taking into account the physical conditions and technical parameters, in particular the current injection capacity of the cathodic protection system and the maximum acceptable impact on other structures.

The conformity of the measured values with the guide values is checked using electrical measurements along the natural gas distribution network. A measurement value applies only to the part of the distribution line on which the measurement was carried out. The inspection of the efficiency of the protection is extrapolated over the entire distribution line based on potential measurements, carried out at different representative points located on the distribution line to be evaluated, such as power extractors and at the level of railways and HS lines.

The implementation method for the measurement of the protection potentials makes it possible to estimate the actual value of the potential of the distribution line by a direct potential measurement or by another suitable method, such as an estimate of the potentials based on potential measurements and neighbouring measurements.

The verification of the conformity of the protection potentials with the -0.85 Vcse value referred to in the first paragraph is considered valid as soon as the implementation method is documented and traceable. The potential measurements can be recorded automatically if the measuring devices and cathodic protection connections are equipped with a data transmission system.

The verification of the conformity of the protection potentials with the -0.85 Vcse value, referred to in the first paragraph, is carried out once a year, with an interval of at least five months and at most seventeen months.

An overall evaluation of the cathodic protection is carried out regularly on the basis of the annual inspections carried out.

6.2.2. Inspection of the condition and proper functioning of the equipment

The normal operation of the power evacuation and drainage devices are checked at least once every two months.

The insulation resistance of the insulation lenses/insulation couplings of the distribution lines are inspected annually by means of a potential measurement over the insulation lens/insulation coupling. If that check indicates insufficient insulation resistance, the necessary corrective measures are taken.

If the operation of the cathodic protection systems with remote teletransmission can be monitored, the distribution system operator may adjust the frequency of the on-site inspections referred to in the first and second paragraphs.

If a malfunction is detected that endangers the proper functioning of the cathodic protection system, an investigation must be initiated within a reasonable period of time. Actions to eliminate the malfunction are taken within a time frame that depends on the situation, taking into account such factors as the severity of the malfunction, technical capabilities and impact of the malfunction on third party distribution facilities.

6.2.3. Managing the impact of operating conditions

The proper functioning of the cathodic protection installations under the conditions laid down are verified insofar as the cathodic protection system may be affected by third-party activities, such as the possible influence of a high-voltage line, or by activities of the facility itself, such as the extension of the natural gas distribution network. In order to manage the impact of such situations, the distribution network operator may use the following detection mechanisms, among others:

1° Monitoring by teletransmission of the equipment of the cathodic protection system such as abstraction, drainage or isolation joint;
2° Observations or measured values determined as a result of the inspections of the cathodic protection.

6.3. Maintenance activities

The activities and periodicity of maintenance for the cathodic protection installations are determined by the distribution system operator on the basis of available elements, such as the:

1° Specifications of the equipment;
2° Failure analysis;
3° Risk analyses;
4° Presence and performance of a remote monitoring ...

The inspection of the accuracy of the measuring instrument, its calibration and general maintenance are carried out according to a maintenance programme in accordance with the properties of each device.

The measuring device for which the maintenance report gives a negative result is examined according to the degree of impact on the effectiveness of the cathodic protection.

Chapter 7. Repairs

7.1 General

The distribution network operator uses qualified staff with the necessary materials and equipment to repair faults and damage to its distribution facilities.

In the event of a fault or damage to the distribution facilities, the distribution network operator carries out one of the following appropriate repairs:

1° Provisional repair in which risks are neutralised as soon as possible pending a final repair or replacement;
2° Permanent repair or replacement.

The distribution system operator has the expertise to determine the means of repair or to choose between repair or replacement.

7.2. Use of working methods

The distribution system operator has work instructions describing the appropriate repair methods.

In the event of defects or damage, the distribution system operator determines the repair method, whether temporary or final, on the basis of the technical possibilities, local circumstances and information available. Any provisional repair must be followed by a permanent repair or replacement.

Local circumstances include:

1° Circumstances at the site, such as the proximity of buildings, obstacles, road traffic and railways;
2° Accessibility of the deteriorated or defective component;
3° Weather conditions.

The applicable technical methods are determined by, among other things:

1° Configuration and security of supply of the network;
2° Pressure of the distributed natural gas;
3° Materials of the damaged parts;
4° Estimated duration of the activity;
5° Conditions of implementation of the final repair;
6° Extent of the damage or defect.

7.3. Interim measures

Pending repairs, whether temporary or permanent, the distribution network operator may take certain interim measures to ensure security of the supply until repairs are completed.

7.4. Pipe cladding repairs

Cladding repairs may only be carried out by authorised staff using cladding systems approved by the distribution system operator, depending on such factors as the destination of the pipe and the type of pressure.

Chapter 8. Maintenance of stations/cabins

The distribution system operator draws up a maintenance programme for its stations and cabins. The distribution network operator also has a transparent and unambiguous maintenance management system that makes it possible to manage, execute, monitor and record the various maintenance processes in an optimal, uniform, qualitative and quantitative manner.

The maintenance programme is based on the equipment present in the stations/cabinets and, where necessary, on risk analyses of failure modes and consequences. The analyses are based on such factors as:

1° Criticality of the distribution facilities;
2° Supplier recommendations;
3° Experience of the operator with distribution facilities;
4° History of incidents and major incidents;
5° Comparison with other gas distribution operators;
6° Risks to staff, the surroundings and the environment.

The maintenance programme and maintenance management system are reviewed regularly to take into account incidents, failures or other events, as well as the characteristics of the equipment.

The maintenance of stations and cabins involves inspecting the operation of the pressure regulation and pressure control systems.

Chapter 9. Inspecting the odourisation of the natural gas

Regular inspections of odourisation are necessary to be able to demonstrate that the quality of the odourisation corresponds to the applicable regulations. The following recommendations are followed:

1° The odourisation level of natural gas is inspected regularly by determining the odorant content in the natural gas;
2° The number of control points and frequency of sample collection are determined by the distribution system operator. With regard to the frequency of inspections, it is recommended that random checks be carried out on the network at least once every three months;
3° In case of doubt, for example following a change in the odourisation distribution system or following an intervention that may affect the odourisation, additional inspections are carried out.

The sampling locations are determined in such a way that a representative sample can be expected for the entirety of the odourisation distribution systems operating on the network.

Any analysis is carried out by the distribution system operator or by a laboratory designated by the distribution system operator. The analysis is carried out according to a tried and tested method.

The new distribution lines made of steel and polyethylene can absorb the odorant at a concentration below the minimum threshold. Taking into account the flow rates and distances, the distribution system operator evaluates whether additional inspections of the odorant content, as referred to in the first paragraph, are necessary. With a low flow rate, the time it takes to reach a sufficiently high odourisation level can be long.

In the event of an excessive concentration of odorant in the natural gas, the following consequences may occur:

1° An increase in the number of requests for natural gas interventions (gas odour call);
2° Residents become accustomed to the smell, which may result in a delayed response in the event of a genuine leak.

Chapter 10. Response to gas indications and gas leaks

10.1. General

The distribution system operator establishes an organisation capable of intervening in case of gas indications and gas leaks and of responding to gas indications and gas leaks without undue delay.

The gas indications are derived from the analysis of gas odour reports (see Section 10.2) or from the systematic detection of gas indications (see Section 5.3.2).

Gas indications are handled on the basis of on-site observations carried out by the distribution network operator's representative.

Detecting a gas odour does not automatically indicate a gas leak. In order to determine whether there is a leak in a distribution facility, the exact location of the place where the natural gas escapes is determined, where appropriate. The localisation of a leak in a distribution facility is only possible if that distribution facility is accessible. In the case of underground distribution facilities, the distribution facilities are always exposed by excavation before the leak can be located.

10.2. Response to gas odour notifications

In the event of a gas odour notification, the representative of the distribution system operator carries out the following:

1° Obtains the relevant information from the caller to confirm that it is indeed a gas odour notification;
2° On the basis of the information obtained, informs the caller of the general safety measures to be taken, in accordance with the instructions laid down by the distribution system operator.

The distribution system operator analyses the information collected and determines the means to be put into operation in order to handle the call as soon as possible.

In case of doubt about the presence or absence of a gas odour, the call is automatically considered a gas indication.

10.3. Response to gas indications

In case of doubt about the presence of a gas odour as mentioned in Section 10.2, the distribution network operator sends a representative to the site as soon as possible to confirm whether or not the call is attributable to a gas odour. If that is not the case, the ‘gas odour notification’ case is closed. If so, the gas indication is confirmed.

The urgency of the response to gas indications is determined on the basis of the analysis of the risks they pose to persons and/or buildings.

Taking into account the considerations set out in the second paragraph, the response to the gas indications is urgent or not urgent.

10.3.1. Urgent response

Urgent gas indications are gas indications that pose a risk to persons or buildings, namely:

1° Gas indication in or under a building;
2° Presence of natural gas in rooms, spaces or sewerage system;
3° Observable gas leaks.

The origin of the gas indications are detected as soon as possible according to location and concentration. If the origin of the gas indications is indeed due to the distribution facility, such leaks are repaired as soon as possible in accordance with the requirements set out in Chapter 7.

Pending repairs or during the repair work and depending on the risk assessment, safety measures may be required, such as the evacuation of the natural gas to the open air, ventilation of the premises, monitoring the gas concentration, closing shut-off controls, diverting traffic or clearing buildings.

10.3.2. Non-urgent response

Non-urgent gas indications are gas indications that are not covered by Section 10.3.1.

On the basis of criteria specific to the distribution system operator, the gas indications are responded to in the context of one of the following elements:

1° A maintenance programme;
2° Investments if the gas indication is established in a distribution facility that is part of:
a) an existing replacement programme or policy;
b) a programme or policy drawn up as a result of the gas indication.

10.4. Registration and documentation

Every gas leak repair is documented in accordance with a procedure specific to the distribution network operator.

Chapter 11. Emergency management

11.1. Emergency plan

The distribution system operator has an emergency plan that determines the appropriate measures to be taken in the event of an emergency in order to minimise its impact, covering in particular the following elements:

1° Analysis of events that cannot be resolved by conventional means;
2° Procedures for reviewing the emergency procedures;
3° Means of communication with the authorities that are available day and night;
4° Roles and responsibilities in emergency situations;
5° The necessary resources and documentation to be able to provide an appropriate response in the event of an emergency;
6° Description of the manner in which the notification is made to the designated officials;
7° Link with the distribution network operator's communication plan in emergency situations.

Within the framework of the implementation of the emergency plan, the distribution system operator must always be available to provide information to municipalities, provinces and emergency services when drawing up their intervention plans. The distribution system operator makes him or herself available to carry out joint drills with the emergency services the management of emergency situations.

Chapter 12. Opening a gas meter

12.1. Certificate of conformity of an indoor installation

A certificate of conformity of the indoor installation, duly completed and accompanied by an isometric diagram of the completed or modified indoor installation showing that the indoor installation complies with the applicable NBN standards, is submitted to the distribution network operator by the distribution network user in the following cases:

1° For the first start-up of an indoor facility, including any conversion of an indoor facility on butane/propane to the distributed natural gas;
2° For the start-up of a modified or renewed indoor facility, even partially;
3° In the event of reopening following a closure ordered by, among others, the fire brigade or police and sealing of the meter by the distribution network operator as a result of a fire or explosion;
4° In the event of reopening after closure by order of, among others, the fire brigade or police, and sealing of the meter by the distribution network operator as a result of CO poisoning.

A ‘modification of the interior installation’ as referred to in the first paragraph, 2°, is any modification with the exception of the following:

1° Modifications necessary for the replacement of a user device and its connection to the existing indoor installation;
2° Changes implemented by the distribution network operator.

12.2. Opening/reopening of a gas meter

Before opening the meter, the distribution system operator or its representative carries out a density test at the operating pressure on the internal installation of the distribution system user, with the exception of equipment.

The distribution system operator may only open a pre-sealed meter in the presence of the person requesting the opening or their representative.

The distribution network operator opens the meter of a new indoor installation under the following conditions:

1° Internal installation of the distribution network user is connected, compliant and attributable;
2° Distribution network user has a contract with a supplier;
3° Certificate of conformity of the interior facility referred to in Section 12.1 has been submitted;
4° Density test shows a leakage rate equal to 0 l/h.

The meter of an existing indoor facility is reopened under the following conditions:

1° Certificate of conformity of the indoor facility as referred to in Section 12.1 has been submitted in the event of modification or renovation, even partial, of the indoor facility or in the event of a reopening after closure ordered by, among others, the fire brigade or police and sealing of the meter by the distribution system operator as a result of a fire, explosion or CO poisoning for the distribution facility concerned;
2° Density test meets the evaluation criteria of the requirements of the distribution system operator.

Chapter 13. Decommissioning of distribution facilities

13.1 General

This section does not apply if the outage is the result of an incident or work carried out by the distribution network operator.

13.2. Temporary decommissioning of distribution facilities

In certain situations, the distribution network operator may decide to temporarily take the distribution facilities out of service and, if necessary, disconnect them from the rest of the natural gas distribution network. The distribution network operator may also keep the distribution facilities at overpressure using natural gas, air or an inert natural gas.

During the entire duration of the temporary decommissioning of the distribution system, all legal provisions continue to apply, with the exception of the maintenance frequency, which may be adjusted.

13.2.1. Monitoring and maintenance of distribution facilities temporarily decommissioned

13.2.1.1 Underground distribution facility

An underground distribution facility that is temporarily out of service continues to be included in the ongoing programme of systematic detection of gas indications if it remains below natural gas.

Verification of the proper functioning of the cathodic protection is carried out as in the case of a distribution facility in use.

13.2.1.2. Above-ground distribution facility

For above-ground distribution facilities that are temporarily out of service, the distribution network operator may decide to adjust the maintenance plan.

13.2.2. Work by third parties in the vicinity of distribution facilities

All work carried out by third parties is handled and monitored in the same way as for a distribution facility that is in operation.

13.2.3. Putting part of a distribution facility back into operation

When putting a distribution facility that has been temporarily out of service back into operation, the distribution system operator verifies the results of any inspections carried out during the period of decommissioning, in particular pressure, cathodic protection and repairs.

Before a distribution facility is put back into operation, the distribution system operator may consider an inspection or a test depending on the duration of the decommissioning. A distribution facility can be started up again without a pressure test, but it is advisable to perform a density check after recommissioning.

13.3. Permanent decommissioning of distribution facilities

In certain situations, the distribution network operator may decide to permanently decommission distribution facilities and disconnect them completely from the rest of the natural gas distribution network. The distribution facility is then cleared of the natural gas it has transported.

Chapter 14. Management of plans and data

14.1. Plan management

The plans of the distribution lines must be kept for the entire duration of their operation.

14.2. Construction data management

The construction data is archived by the distribution network operator for the entire operational life of the distribution facilities.

14.3. Operation data management

14.3.1. Cathodic protection – Potential measurements

The results of the potential measurements carried out annually by the distribution network operator must be kept for at least five years.

14.3.2. Systematic leak investigation

The results of the detection of the gas indications in the context of the systematic detection of leaks must be kept at least until the next inspection.

14.3.3. Odourisation inspection

The results of the inspections of the odourisation level must be kept at least until the next inspection.

14.3.4. Requests for intervention

All requests for intervention that are made to the distribution network operator by phone are recorded and stored for at least five years.

To be appended to the ministerial decree approving the special technical provisions of the Flemish government's decree regulating safety measures for the construction and operation of natural gas distribution facilities and for work activities in the vicinity of such facilities.

Brussels, (date).

Flemish Minister for Housing, Energy and Climate, Tourism and Youth,

Melissa DEPRAETERE

Flemish Minister for Environment and Agriculture,

Jo BROUNS