Supplement to Safety Regulations for Contractors

This supplementary sheet is valid until revoked.

1.1 Plant work and construction sites

1.1.1 Work on gas pipelines

For works with a possibility of touching bare pipeline parts (e.g., uncovering the pipeline when repairing coating defects, etc.), it may be necessary to make an electrically conductive connection between the steel pipeline(s) and the soil. In the case of metal trench shoring (e.g., sheet piling) or touchable embanked soil in the hand area, the trench shoring must be insulated or covered. If measures are taken as described in **section 1.1.1.1 Site insulation**, this electrically conductive connection can be omitted.

Before separating (cutting, removing fittings, setting, or pulling plug-in discs, etc.) or binding in parts of a gas pipeline made of metallic materials, a metallic, electrically conductive bridging of the point of separation must be additionally made to protect against dangerous contact voltage and ignitable flashover. Effective protection is ensured if flexible insulated cables with a suitable connection method (e.g., a bridging and pressing device) are used for bridging (holding magnets are not permitted). The electrical bridging must remain in place for the duration of the work. Cathodic protection systems with external current feed must be switched off, if they are in the area of influence - this means switching off an entire KKS area or e.g., an LKS station.

The cables are to be carried out

- for a cable length of up to 3 m with a cross-section of 16 mm²,
- for a cable length of up to 10 m with a cross-section of 25 mm²,
- for a cable length of more than 10 m up to 20 m with a cross-section of 50 mm².

The creation of electrically conductive connections and a shutdown can impair the cathodic corrosion protection. Therefore, their necessity should be checked in advance and the measure should not be applied longer than necessary (e.g., reset at night, or at the weekend). During this time, suitable alternative measures must be taken, e.g., warning signs (electricity), barriers, etc.

To avoid impermissible contact voltages in the area of steel pipelines affected by high voltages, further measures may be necessary depending on the activities. (e.g., suitable PPE, underlays made of non-conductive material, insulated tools, etc.).

To avoid impermissible interference because of approaches and crossings between metallic pipelines and power installations (>1kV), following technical recommendation to avoid impermissible interference must be observed: **TE30 Measures to be taken during the construction and operation of pipelines and power installations with nominal voltages above 1 kV**.

Pipe strings are to be electrically conductively connected to the pipeline lying in the pipe trench by means of an insulated conductor before being placed in the pipe trench. This conductor can be removed as soon as the final connection has been made.

Welded pipe strings stored above ground, e.g., on timbers, are insulated conductors in relation to earth. They can be affected capacitively and inductively in the vicinity of high-voltage overhead lines, which is why measures according to **TE30** are required depending on the length.

During a thunderstorm, work on steel pipelines must be stopped.

1.1.1.1 Site insulation

To insulate the site, the resistance between a person's location and the ground must be increased by an insulating intermediate layer in such a way that no impermissibly high voltages can be tapped at the pipeline system. The insulating intermediate layer must be arranged in such a way that the pipeline and parts connected to it (e.g., fittings) cannot be touched from locations outside the insulated area.

Examples of sufficiently insulating intermediate layers are:

- Gravel layers of at least 10 cm thickness
- Asphalt layers of at least 1 cm thickness
- Insulating mats of at least 2.5 mm thickness

When using site insulation, it should be noted that an impermissibly high potential difference can occur with respect to parts of other installations that can be touched at the same time (e.g., other pipelines, metal fences). Tapping of this potential difference must be prevented by suitable measures (e.g., enclosures, covering, etc.).

1.1.2 Work in gate valve stations

When working in gate valve stations, the equipotential bonding switch must be activated.

Activating the equipotential bonding switch can impair the cathodic corrosion protection. Therefore, its necessity should be checked in advance and the measure should not be applied for longer than necessary (e.g., reset at night or on weekends). During this time, suitable alternative measures must be taken, e.g., warning signs (power), shut offs, etc.

Before disconnecting (cutting, removing fittings, setting, or pulling plug-in discs, etc.) or binding in parts of a gas pipeline made of metallic materials, a metallic, electrically conductive bridging of the point of disconnection must also be made to protect against dangerous contact voltage and ignitable sparkover. Effective protection is ensured if flexible insulated cables with a suitable connection method (e.g., a bridging and pressing device) are used for bridging. Holding magnets are not permitted here.

The electrical bridging must remain in place for the duration of the work. Cathodic protection systems with external current feed must be switched off if they are in the area of influence. This means switching off an entire KKS area or e.g., an LKS station.

During a thunderstorm, work on steel pipelines must be stopped.