



DEHN protects.

Natural gas transfer station
of the MONACO pipeline in Finsing

Customer



bayernets GmbH

Project overview

Branch

Gas transport
Pipeline technology

Application

Surge protection for natural gas
transfer station of the MONACO
pipeline in Finsing

Hardware

EXFS Coaxial Connection Box
with integrated EXFS 100 ex
isolating spark gaps

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Natural gas transfer station of the MONACO pipeline in Finsing



bayernets GmbH

bayernets GmbH in Munich transmits natural gas via a 1,412 km long high-pressure pipeline network in Bavaria. With a network area of 32,000 km², the company is one of the largest network operators in Germany. As part of the gas network development plan, the MONACO natural gas pipeline will increase the security of supply in the south of Germany and Austria whilst also improving network stability and flexibility. The underground pipeline with a total length of about 87 km runs from the German-Austrian border in Burghausen to Finsing near Munich. There the natural gas is taken from the high-pressure network at the "Finsing 2" transfer station and fed into the downstream supply network at reduced pressure.

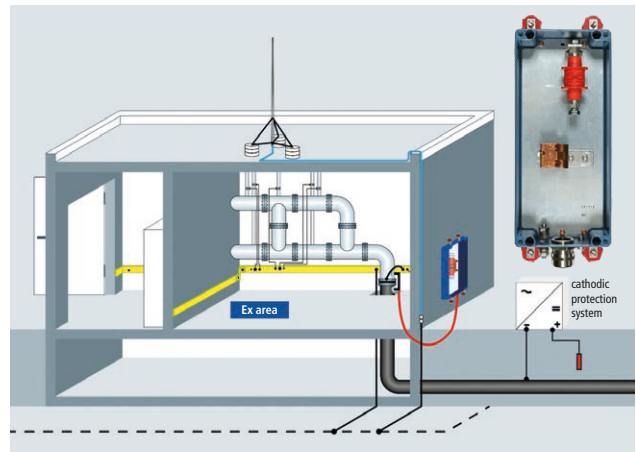
Challenge

As the insulating joint in the transfer station (cover picture) is in a potentially explosive area (ex zone 2!), it must be protected against (lightning-related) surges. Isolating spark gaps are used to effectively protect electrically conductive installation parts (which cannot be connected with one another) in hazardous areas. Inspections take place within the intervals laid down for the system – e.g., every 2 years in compliance with DIN EN 62305-3 or every 3 years in accordance with DIN EN 60079-17 (VDE0165 part 10-1). To avoid having to carry out these inspections in ex zone 2, at the "Finsing 2" transfer station the EXFS 100 coaxial connection box with integrated ex isolating spark gaps was installed outside the ex area.



Solution

The coaxial connection box is used to protect insulating joints installed underground and for bridging them in cathodically protected pipe sections. The connection between the insulating joint and the coaxial connection box forms a coaxial connecting cable. The protective effect achieved is up to three times higher than with conventional connection technology of comparable length. Consequently, the coaxial connection box has the advantage that the insulation strength of the insulating joint is not exceeded, even in case of long connecting cables. Moreover, this solution allows the trouble-free inspection of the ex isolating spark gap EXFS 100 outside the hazardous area.



Coaxial connection box with integrated EXFS 100 ex isolating spark gap

Advantages of the DEHN solution

- Easy inspection and exchange of the spark gap outside the hazardous area
- Protection solution, tested by the manufacturer, applicable for all classes of LPS
- No need to disconnect cables or remove insulation for inspections
- Voltage drop across the connecting cable is up to three times lower than in case of a conventional connecting cable
- Version for lightning equipotential bonding according to IEC 62305 in hazardous areas
- Simple installation – delivery scope includes all fixing and assembly accessories