



NET4GAS, s.r.o

COMPRESSOR STATION JIRKOV 73 BAR

List of Relevant Regulation, Standards and Specifications

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1 GENERAL

1.1 Scope of the Document

The intention of this document is to identify all relevant international and national codes, standards and regulation, as well as EMPLOYERS guidelines and standard specifications that are relevant for PROJECT. The document is not an exhaustive listing, and it should be noted that some Codes and Standards may apply to more than one discipline and therefore may appear in different sections within this document.

For all codes and standards listed in this document, the latest version shall apply. In the event that any code, standard or regulation is re-issued during the course of the project than the updated code, standard or regulation shall be reviewed and the potential impact assessed in accordance with EMPLOYERS/PROJECT change management procedures.

1.2 Definitions

Term	Explanation
Project	Compressor Station Jirkov 73 bar
Employer	NET4GAS
Consultant	ILF Consulting Engineers

1.3 Abbreviations

Term	Explanation
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
CENELEC	European Committee for Electro technical Standardization
ČSN	Czech National Standard
DIN	Deutsches Institut für Normung (German Institute for Standardization)
EEMUA	Engineering Equipment and Material Users Association
EC	European Community

Term	Explanation
EN	European Norm
EU	European Union
ETSI	European Telecommunication Standards Institute
HSSE	Health Safety Security and Environment
HVAC	Heating, Ventilation and Air Conditioning
IBC	International Building Code
IEC	International Electrical Commission
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organisation for Standardisation
ITU	International Telecommunication Union
MOP	Maximum Operation Pressure
NEMA	National Electrical Manufacturers Association
PTC	Performance Test Codes
SCADA	Supervisory Control and Data Acquisition
SCS	Station Control System
TEMA	Tubular Exchangers Manufacturers Association
TPG	Technická Pravidlá - Gas (Technical Regulation for Gas)
VDE	Verein Deutscher Ingenieure (The Association of German Engineers)

2 SPECIFIC CODES AND STANDARDS

2.1 Quality Control, Certification

ČSN EN ISO 9000	Quality management systems - Fundamentals and vocabulary
ČSN EN ISO 9001	Quality management systems – Requirements
ČSN EN ISO 9004	Managing for the sustained success of an organization - A quality management approach

ČSN EN ISO 14001	Environmental management systems - Requirements with guidance for use
ČSN OHSAS 18001	Occupational health and safety management systems – Requirements
ČSN EN 10204	Metallic products - Types of inspection documents
ČSN EN 45020	Standardization and related activities - General vocabulary
ČSN EN ISO/IEC 17000	Conformity assessment - Vocabulary and general principles
ČSN 42 0346	Metal testing. Determination of transition temperature of structural steels using the bending-impact test of large pieces of original thickness
ČSN EN 10274	Metallic materials - Drop weight tear test

2.2 Equipment, Pipeline, Piping, Valves and Related Facilities (Guideline)

2.2.1 Electro Motor and Compressor Set (EMCS)

EN 12583	Gasworks infrastructure. Compressor stations. Operation requirements.
API 617	Axial and Centrifugal Compressors and Expander - Compressors
PTC 10	Performance Test Codes on Compressors and Exhausters
ISO 1940	Mechanical vibration - Balance quality requirements for rotors in a constant (rigid) state
NEMA SM23	Steam Turbines for Mechanical Drive Services
ISO 7919-1	Mechanical vibration of machines with non-reversible motion. Measuring on rotating shafts and evaluation criteria. Part 1: general requirements
ISO 12944-2	Paints and varnishes-Corrosion protection of steel structures by protective paint systems. Part 2: Classification of environments
ISO 12944-4	Paints and varnishes - Corrosion protection of steel structures by protective paint systems. Part 4: Types of surface and surface preparation
IEC 61800-3	Adjustable speed electrical power drive systems. EMC requirements and specific test methods

IEC 61800-4	Adjustable speed electrical power drive systems – Part 4: General requirements – Rating specifications for a.c. power drive systems above 1000 V a.c. and not exceeding 35 kV
768/2008/EC	Uniform conditions for the marketing of safe products in the EU (conformity marking)
ČSN 33 2000-5-51	Electrical installations of buildings. Part 5-51: Selection and erection of electrical equipment. Common rules
IEEE 519	IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems
ISO 254	Belt drivers – Pulleys – Quality, finish and balance
EN ISO 14694	Industrial fans. Specifications for balance quality and vibration levels
EN ISO 2858	End - suction centrifugal pumps (rating 16 bar). Designation, nominal duty point and dimensions
EN ISO 5199	Technical specifications for centrifugal pumps
EN 62061	Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems
IEC 62443-1-1	Technical specification: Industrial communication networks – Network and system security – Part 1-1: Terminology, concepts and models
IEC 62443-2-1	Industrial communication networks – Network and systems security – Part 2-1: Establishing an industrial automation and control systems security program
IEC 62443-3-1	Technical Report: Industrial communication networks – Network and system security – part 3-1: Security technologies for industrial automation and control systems
EN 837-1	Pressure gauges. Bourdon tube pressure gauges. Dimensions, metrology, requirements and testing
EN 61439	Low-voltage switchgear and controlgear assemblies
EN 61442	Test methods for accessories for power cables with rated voltages from 6 kV up to 29 kV
EN 62305, part 1-4	Protection against lightning set of standards
EN 60204	Safety of machinery – Electrical equipment of machines

ČSN 33 2000-4-444	Low Voltage Electrical Installations – Part 4-444: Safety – Protection against Voltage and Electromagnetic Interference
EN 60445	Basic and safety principles for man-machine interface, marking and identification of equipment terminals conductor terminations and conductors
ČSN 347411	Electric cables of rated voltage 450/750 V with PVC thermoplastic insulation and sheath for fixed installation
EN 60228	Conductors of insulated cables
ČSN 341610	Heavy-current distribution systems in industrial workshops
EN 60332-2-1	Tests on electric and optical fibre cables under fire conditions – Part 2-1: Test for vertical flame propagation for a single small insulated wire or cable – Apparatus
IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV up to 30 kV
DIN VDE 0276-603	Power cables – Part 603: Distribution cables of rated voltage 0,6/1 kV
DIN VDE 0276-627	Power cables – Part 627: Multicore and multipair cables for installation above and below ground
EN ISO 11204+AC1	Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified position applying accurate environmental corrections
EN ISO 1996-2	Acoustics – Description and measurement of environmental noise Part 2: Acquisition of data pertinent to land use
EN ISO 3746	Acoustics – Determination of sound power levels of noise sources using sound pressure. Survey methods use an enveloping measurements surface over reflecting plane

2.2.2 Other Equipment, Piping and Related Facilities

ČSN EN 334+A1	Gas pressure regulators for inlet pressures up to 100 bar
ČSN EN 12732+A1	Gas infrastructure – Welding steel pipework – Functional requirements
ČSN EN 12186	Gas infrastructure – Gas pressure regulating stations for transmission and distribution – Functional requirements

ČSN EN 14382+A1	Safety devices for gas pressure regulating stations and installations – Gas safety shut-off devices for operating pressures up to 100 bar
ČSN EN 12327	Gas infrastructure – Pressure testing, commissioning and decommissioning procedures – Functional requirements
ČSN EN 10204	Metallic products – Types of inspection documents
ČSN EN ISO 3183	Petroleum and natural gas industries – Steel pipe for pipeline transportation systems
ISO 14313:2007	Petroleum and natural gas industries -- Pipeline transportation systems -- Pipeline valves
ČSN EN 13942	Petroleum and natural gas industries - Pipeline transportation systems - Pipeline valves (ISO 14313:2007 modified)
ČSN EN 12266-1	Industrial valves – Testing of metallic valves – Part 1: Pressure tests, test procedures and acceptance criteria – Mandatory requirements
ČSN EN 12266-2	Industrial valves - Testing of metallic valves - Part 2: Tests, test procedures and acceptance criteria; Supplementary requirements
ČSN EN 14141	Valves for natural gas transportation in pipelines – Performance requirements and tests
ČSN EN 13480-1,3,4,5	Metallic industrial piping (series)
ČSN EN 1503	Valves - Materials for bodies, bonnets and covers (series)
ČSN EN 1515-1,2,3	Flanges and their joints – Bolting (series)
ČSN EN 12186	Gas infrastructure – Gas pressure regulating stations for transmission and distribution – Functional requirements
ČSN EN 1776	Gas supply systems - Natural gas measuring stations - Functional requirements
ČSN EN 10028-3	Flat products made of steels for pressure purposes - Part 3: Weldable fine grain steels, normalized
ČSN EN 10216	Seamless steel tubes for pressure purposes – Technical delivery conditions (series)
ČSN EN 10217	Welded steel tubes for pressure purposes – Technical delivery conditions (series)
ČSN EN 10222	Steel forgings for pressure purposes (series)

ČSN EN 10253-2	Butt-welding pipe fittings - Part 2: Non alloy and ferritic alloy steels with specific inspection requirements
ČSN EN 12560-2	Flanges and their joints – Dimensions of gaskets for Class-designated flanges – Part 2: Spiral wound gaskets for use with steel flanges
ČSN EN 12954	Cathodic protection of buried or immersed metallic structures - General principles and application for pipelines
ČSN EN 13509	Cathodic protection measurement techniques
ČSN EN 14505	Cathodic protection of complex structures
ISO 7-1:1994	Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation
ČSN 13 0010	Piping and fitting. Nominal pressures and working overpressure
ČSN EN ISO 6708	Pipework components. Definition and selection of DN (nominal size)
ČSN EN 12627	Industrial valves - Butt welding ends for steel valves
ČSN 13 3060-1, 2, 4	Industrial valves. Technical delivery code. (series)
ČSN EN 1984	Industrial valves - Steel gate valves
ČSN EN 12279	Gas supply systems - Gas pressure regulating installations on service lines - Functional requirements
ČSN EN 14870-1	Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 1: Induction bends (ISO 15590-1:2009 modified)
ČSN EN 14870-2	Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 2: Fittings
ČSN 13 2305	Welding-on pipe sockets - PN 40 to PN 250
ČSN 13 7501	Pressure gauge cocks and valves and parts of pressure gauge connections. Technical regulation
ČSN 13 7517	Pressure gauge valves PN 250, PN 630
ČSN 13 7524	Parts of pressure gauge connections, PN 630
ČSN 69 0010-3.1	Stationary pressure vessels. Technical rules. Part 3.1: Materials

ČSN 69 0010-4-1	Stationary pressure vessels. Technical rules. Design. Introduction
ČSN 69 0010-4.2	Stationary pressure vessels - Technical rules - Design - Part 4.2: General specification of strength steel vessels
ASME B16.1:2015	Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250
ASME B16.5:2013	Pipe Flanges and Flanged Fittings NPS 1/2 through 24
ASME B16.20:2012	Metallic Gaskets for Pipe Flanges: Ring-Joint, Spiral-Wound, and Jacketed
TP_T01_01_01_01	Solution pipeline closures, valves and other fittings
TP_T01_01_01_03	Principles for planning, building, refurbishing, and repairing high-pressure gas pipelines and connections up to 100 bar
TP_G03_01_01_01_04	Principles for the design, construction, reconstruction and repair of equipment of active corrosion protection (TGN_TX_E01_02_01)

2.3 Coating and Painting (Guideline)

ČSN EN ISO 21809	Petroleum and natural gas industries - External coatings for buried and submerged pipelines used in pipeline transportation systems. (series)
ČSN EN ISO 12944-1-8	Paints and varnishes - Corrosion protection of steel structures by protective paint systems (series)
ČSN EN 10288	Steel tubes and fittings for on and offshore pipelines - External two layer extruded polyethylene based coatings
ČSN EN 10289	Steel tubes and fittings for onshore and offshore pipelines - External liquid applied epoxy and epoxy-modified coatings
ČSN EN 10290	Steel tubes and fittings for onshore and offshore pipelines - External liquid applied polyurethane and polyurethane-modified coatings
ISO 15741:2001	Paints and varnishes – Friction - reduction coatings for the interior of on- and offshore steel pipelines for non-corrosive gases.
ČSN EN 12068	Cathodic protection - External organic coatings for the corrosion protection of buried or immersed steel pipelines

	used in conjunction with cathodic protection - Tapes and shrinkable materials.
ČSN EN 12954	Cathodic protection of buried or immersed metallic structures - General principles and application for pipelines.
ČSN EN ISO 8501	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness. (series)
ČSN EN ISO 8502	Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness. (Parts 2, 3, 4, 5, 6, 8 and 9)
ČSN EN ISO 8503-1-5	Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates (Series)
ČSN EN ISO 11124-1-4	Preparation of steel substrates before application of paints and related products - Specifications for metallic blast-cleaning abrasives (Series)
ČSN 03 8350	Requirements for corrosion protection of buried installations.
ČSN 03 8373	Principles of exploitation, maintenance, revision of protection of metal tubes and metal-clad cables laid underground against corrosion
ČSN 03 8374	Principles of protecting underground metallic structures against corrosion.
ČSN 03 8375	Corrosion protection of underground metallic pipelines
ČSN 03 8376	Principles of building of underground steel pipelines. Inspection from point of view of corrosion protection
TPG 920 21	Corrosion protection of underground steel constructions, Selection of coating systems
TPG 920 24	Principles for execution of holiday tests for coating materials
TP_T01_01_01_05	Principles of passive anti-corrosion protection of gas equipment

2.4 Welding and Nondestructive Testing (Guideline)

ČSN EN 1011	Welding - Recommendations for welding of metallic materials (Series)
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ČSN EN 12732+A1	Gas infrastructure – Welding steel pipework – Functional requirements
ČSN EN ISO 9692-1	Welding and allied processes – Types of joint preparation – Part 1: Manual metal arc welding, gas-shielded metal arc welding, gas welding, TIG welding and beam welding of steels
ČSN EN 1708-1	Welding – Basic weld joint details in steel – Part 1: Pressurized Components
ČSN EN ISO 3834	Quality requirements for fusion welding of metallic materials (Series)
ČSN EN ISO 14731	Welding coordination – Tasks and responsibilities
ČSN EN ISO 15607	Specification and qualification of welding procedures for metallic materials - General rules
ČSN EN ISO 15609-1	Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding
ČSN EN ISO 15614	Specification and qualification of welding procedures for metallic materials - Welding procedure test (series)
ČSN EN ISO 6520-1	Welding and allied processes - Classification of geometric imperfections in metallic materials - Part 1: Fusion welding
ČSN EN ISO/IEC 17020	Conformity assessment – Requirements for the operation of various types of bodies performing inspection
ČSN EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
ČSN EN ISO 9606-1	Qualification test of welders - Fusion welding - Part 1: Steels
ČSN EN ISO 5579	Non-destructive testing – Radiographic testing of metallic materials using film and X- or gamma rays – Basic rules
ČSN EN ISO 9712	Non-destructive testing – Qualification and certification of NDT personnel
ČSN EN ISO 3452-1	Non-destructive testing - Penetrant testing - Part 1: General principles
ČSN EN ISO 16810	Non-destructive testing - Ultrasonic testing - General principles
ČSN EN ISO 10863	Non-destructive testing of welds – Ultrasonic testing – Use of time-of-flight diffraction technique (TOFD)
ČSN EN ISO 11699	Non-destructive testing - Industrial Radiographic Film (series)

ČSN EN ISO 17637	Non-destructive testing of welds – Visual testing of fusion-welded joints
ČSN EN ISO 17638	Non-destructive examination of welds – Magnetic particle testing
ČSN EN ISO 17640	Non-destructive testing of welds – Ultrasonic testing – Techniques, testing levels and assessment
ČSN EN ISO 17635	Non-destructive testing of welds – General rules for metallic materials
ČSN EN ISO 15626	Non-destructive testing of welds – Time-of-flight diffraction technique (TOFD) – Acceptance levels
ČSN EN ISO 5817	Welding – Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) – Quality levels for imperfections
ČSN EN ISO 11666	Non-destructive testing of welds – Ultrasonic testing – Acceptance levels
ČSN EN ISO 10675-1	Non-destructive testing of welds – Acceptance levels for radiographic testing – Part 1: Steel, nickel, titanium and their alloys
ČSN EN ISO 23278	Non-destructive examination of welds - Magnetic particle testing of welds - Acceptance levels
ČSN EN ISO 19232	Non-destructive testing - Image quality of radiographs (Series)
ČSN EN 25580	Non-destructive testing. Industrial radiographic illuminators. Minimum requirements (ISO 5580:1985)
ČSN EN ISO 16828	Non-destructive testing – Ultrasonic testing – Time-of-flight diffraction technique as a method for detection and sizing of discontinuities
ČSN EN 12668	Non-destructive testing - Characterization and verification of ultrasonic examination equipment (Series)
ČSN EN ISO 16811	Non-destructive testing - Ultrasonic testing - Sensitivity and range setting
ČSN EN ISO 3059	Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions
ČSN EN ISO 23277	Non-destructive examination of welds - Penetrant testing of welds - Acceptance levels

ČSN EN ISO 6947	Welding and allied processes - Welding positions
ČSN 05 0601	Welding Safety measures for welding of metals Performance
ČSN 05 0610	Welding Safety measures for flame welding and cutting of metals
ČSN 05 0630	Welding Safety measures for arc welding of metals
ČSN EN ISO 17636-1	Non-destructive testing of welds - Radiographic testing - Part 1: X- and gamma-ray techniques with film
ČSN EN ISO 17636-2	Non-destructive testing of welds - Radiographic testing - Part 2: X- and gamma-ray techniques with digital detectors
ČSN 05 1309	Weldability of metals and its assessment

2.5 Civil (Guideline)

The construction of civil structures and buildings shall be performed according to the following Eurocodes and European Standards.

Earthworks:

ČSN EN 1997	Eurocode 7: Geotechnical design (series)
ČSN 73 6006	Warning devices for identification of underground conduction
ČSN 73 6133	Road earthwork - Design and execution
ČSN 75 5115	Ground water abstraction
ČSN 75 5630	Water piping underground crossing below railways and roadways
ČSN 75 4030	Crossing and convergence of equipment for amelioration with railways, roadways and lines

Foundations

ČSN EN 1997	Eurocode 7, Geotechnical design (series)
ČSN EN 1998-1,2,4,5	Eurocode 8, Design of structures for earthquake resistance (series)
ČSN 73 0039	Design of constructions on the mining subsidence areas
ČSN 73 0040	Loads of technical structures by technical seismicity
MP_T01_05_01_01	Geodetic surveying and processing geodetic documentation

Concrete

ČSN EN 1997	Eurocode 7: Geotechnical design (series)
ČSN EN 1992	Eurocode 2: Design of concrete structures
ČSN EN 1994	Eurocode 4: Design of composite steel and concrete structures
ČSN EN 197-1	Cement - Part 1: Composition, specifications and conformity criteria for common cements
ČSN EN 197-2	Cement - Part 2: Conformity evaluation
ČSN EN 206	Cement - Concrete - Specification, performance, production and conformity
ČSN EN 10080	Steel for the reinforcement of concrete - Weldable reinforcing steel - General
EN 10138	Prestressing steel (series)
ČSN EN ISO 17660	Welding - Welding of reinforcing steel (series)
ČSN EN 12620+A1	Aggregates for concrete
ČSN EN 13055	Lightweight aggregates (series)
ČSN EN 450	Fly ash for concrete (series)
ČSN EN 934	Admixtures for concrete, mortar And grout (series)
ČSN EN 1008	Mixing water for concrete - Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete
ČSN EN 13263	Silica fume for concrete (series)
ČSN EN 13369	Common rules for precast concrete products
ČSN EN 13670	Execution of concrete structures
ČSN EN 12811	Temporary works equipment (series)
ČSN EN 12812	Falsework - Performance requirements and general design
ČSN EN 12813	Temporary works equipment - Load bearing towers of prefabricated components - Particular methods of structural design
ČSN EN 13377	Prefabricated timber formwork beams - Requirements, classification and assessment

Structural Steel

ČSN EN 1990	Eurocode, Basis of structural design (series)
ČSN EN 1991	Eurocode 1, Actions on structures (series)
ČSN EN 1993	Eurocode 3, Design of steel structures (series)
ČSN EN 1090	Execution of steel structures and aluminium structural (series)
ČSN EN 10025	Hot rolled products of structural steels (series)

Corrosion Protection

ČSN EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
ČSN 33 2165	Principles for protection of underground insulated steel pipelines against dangerous influences of very high voltage and extra high voltage overhead lines and stations.
TGN_TX_E01_05_01	Principles for design, construction and reconstructions, and repairs of active corrosion protection equipment
TGN_TX_E01_06_01	Solution for passive corrosion protection of gas equipment

Drainage Facilities

ČSN EN 12056	Gravity drainage systems inside buildings (series)
ČSN EN 1433	Drainage channels for vehicular and pedestrian areas. Classification, design and testing requirements, Marking and evaluation of conformity
ČSN EN 752	Drain and sewer systems outside buildings.
ČSN EN 1401-1	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U) - Part 1: Specifications for pipes, fittings and the system
ČSN EN 1610	Construction and testing of drains and sewers
ČSN EN 1916	Concrete pipes and fittings, unreinforced, steel fibre and reinforced
ČSN EN 1917	Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced

Fencing and Gates

ČSN EN ISO 1461	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
ČSN EN 10223-6	Steel wire and wire products for fencing and netting - Part 6: Steel wire chain link fencing
ČSN EN 10210	Hot Finished Structural Hollow Sections of Non-Alloy and Fine Grain Structural Steels
ČSN EN 10219	Cold formed welded structural hollow sections of non-alloy and fine grain steels (series)

Roads and Walkways

ČSN EN 12591	Bitumen and bituminous binders - Specifications for paving grade bitumens
ČSN EN 12697	Bituminous mixtures (series)
ČSN EN 12899-1	Fixed vertical road traffic signs - Part 1: Fixed signs
ČSN EN 13036	Road and airfield surface characteristics - Test methods (series)
ČSN EN 13043	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
ČSN EN 13249+A1	Geotextiles and geotextile-related products - Characteristics required for use in the construction of roads and other trafficked areas (excluding railways and asphalt inclusion)
ČSN EN 13286	Unbound and hydraulically bound mixtures (series)
ČSN 73 6101	Design of highways and motorways
ČSN 75 2130	Crossing and convergence of watercourse with railways, roadways and lines
TP 170	Innovation of Standards for Roads Designs – Appendix TP 170 Acoustics
ISO 717-1:2013	Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation
ISO 717-2:2013	Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact sound insulation

HVAC

ČSN EN 12831	Heating systems in buildings - Method for calculation of the design heat load
ČSN EN 13779	Ventilation for non-residential buildings - Performance requirements for ventilation and room-conditioning systems
ČSN EN 779	Particulate air filters for general ventilation - Determination of the filtration performance

Overhead Cranes

98/37/EC	Machinery Directive
94/9/EC	Equipment and Protective systems intended for use in Potentially Explosive Atmospheres (ATEX)
ČSN EN 13001	Cranes - General Design (series)
ČSN EN 13135	Cranes - Safety - Design - Requirements for equipment
ČSN EN 1993-6	Eurocode 3, Design of steel structures – part 6: crane supporting structures

2.6 Electrical (Guideline)

ČSN EN 50160	Voltage characteristics of electricity supplied by public electricity networks
ČSN EN 60034	Rotating Electrical Machines (series)
ČSN EN 62271-100	High-voltage switchgear and controlgear - Part 100: Alternating current circuit-breakers
IEC/EN 60076	Power Transformers
IEC/EN 60079	Explosive atmospheres
IEC 60364-5-51	Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules
IEC 60439-3	Low-voltage switchgear and controlgear assemblies – Part 3: Distribution boards intended to be operated by ordinary persons (DBO)
IEC 60439-4	Low-voltage switchgear and controlgear assemblies. Part 4. Particular requirements for assemblies for construction sites (ACS)
IEC/EN 60529	Degrees of Protection Provided by Enclosures (IP Code)

IEC/EN 60947	Low-voltage switchgear and controlgear. General
IEC/EN 60989	Separating transformers, autotransformers, variable transformers and reactors.
IEC/EN 61000	Electromagnetic Compatibility (EMC)
CENELEC	European committee for electrotechnical standardization – Information procedure on standards
ETSI EN 300 019-1-3	Environmental engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-3: Classification of environmental conditions; Stationary use at weatherprotected locations
ČSN 03 8370	Reduction of stray current corrosive effect on underground installations (piping, cables etc.)
ČSN 33 2000-5-54	Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors
ČSN EN 50443	Effects of electromagnetic interference on pipelines caused by high voltage a.c. electric traction systems and/or high voltage a.c. power supply systems
ČSN 34 1500	Railway applications - Fixed installations - Basic rules for electric traction equipment
ČSN EN 50122-1	Railway applications - Fixed installations - Electrical safety, earthing and the return circuit - Part 1: Protective provisions against electric shock
ČSN EN 62305-1	Protection against lightning - Part 1: General principles
ČSN 34 2100	ČSN electric-engineering regulations. Rules for overhead communication lines
EN 50110-1	Operation of electrical installations - Part 1: General requirements
TP_T01_01_01_06	Designing and implementing electro, I&C and Control systems

3 GENERAL CODES, STANDARDS AND LEGAL REGULATIONS

3.1 HSSE laws and directives

Please refer to HSSE plan and Contractor's HSSE Construction Guidelines.

3.2 Law, Legal Directives and Regulations

Beside technical Codes and Standards, the following documents of legislation and authorities in the current wording have to be considered:

- Building Act No.183/2006 Coll.
- Energetic Act No.158/2009 Coll.
- Public Notice No.499/2006 Coll. about construction documentation
- Public Notice No.268/2009 Coll. about technical requirements for constructions
- Act No.334/1992 Coll. about protection of agricultural land fond
- Forest Act No.289/1995 Coll.
- Act No.18/2010 Coll. about protection of environment and landscape
- Public Notice No.395/1992 Coll. about protection of environment and landscape
- Act No.309/2006 Coll. about safety and health protection
- Government Regulation No.591/2006 Coll. about min. requirements for safety and health protection by work on construction site
- Government Regulation No.148/2006 Coll. about protection against adverse reactions of noise and vibrations
- Act No.174/1968 Coll. about state supervision of the work safety
- Government Regulation No.85/1978 Coll. about controls, revisions and testing of gas equipment, as amended by Government Regulation No.352/2000 Coll.
- Public Notice No.18/1979 Coll. about reserved pressure equipment and determine certain conditions to ensure their safety
- Public Notice No.21/1979 Coll. about reserved gas equipment and determine certain conditions to ensure their safety
- Public Notice No.48/1982 Coll. about determined basic requirements for ensuring of safety at the work and technical equipment
- Act No.61/1988 Coll. about mining, explosives and the State Mining Authority
- Public Notice No.72/1988 Coll. about using of explosives
- Commercial Code Act No.513/1991 Coll.
- Act. No.114/1992 Coll. about protection of the nature and landscape
- Act. No.360/1992 Coll. about the profession of authorized architects, authorized engineers and technicians active in construction
- Act No.200/1994 Coll. about surveying and change/addition certain acts related to its introduction

- Railways Act No.266/1994 Coll.
- Inland Navigation Act No.114/1995 Coll.
- Public Notice No.222/1995 Coll. about waterways, shipping traffic in ports, common accident and transportation of dangerous objects.
- Roads Act No.13/1997 Coll.
- Act. No.22/1997 Coll. about technical requirements for products and change/addition certain acts.
- Public Notice No.104/1997 Coll. about using of the road act
- Government Regulation No.352/2000 Coll., which change certain public notices ministries and other authorities, as amended by Government Regulation No.42/2003 Coll.
- Act No.458/2000 Coll. about business conditions and the performance of government in the energy industry and change certain acts (energy act).
- Act No.100/2001 Coll. about assessment of impacts on the environment and change certain related acts (act on the assessment of environmental impact)
- Waste Act No.185/2001 Coll.
- Water Act No.254/2001 Coll.
- Government Regulation No.26/2003 Coll., with determined technical requirements for pressure equipment, as amended by Government Regulation No.621/2004 Coll.
- Government Regulation No.61/2003 Coll. about indicators and values of permissible pollution of surface water and wastewater, details of the permit for runoff wastewater to surface water, canalization and sensitive areas
- Public Notice No.293/2003 Coll. about detailed conditions and properties of explosives intended for use in dangerous conditions or environment, and for testing the properties of these explosive
- Government Regulation No.406/2004 Coll. about detailed requirements for security and protect to health during work in the environment with explosive atmospheres
- Government Regulation No.101/2005 Coll. about detailed requirements on workplace and work environment
- Electronic communications Act No.127/2005 Coll.
- Labour inspection Act No.251/2005 Coll.
- Act No.59/2006 Coll. about prevention of serious accidents caused by dangerous chemicals or chemical preparations and about change Act No.258/2000 Coll. about protection of public health and change certain related acts and Act No.320/2002

Coll. about change and cancel certain acts in connection with the termination of district offices.

- Labour Code Act No.262/2006 Coll.
- Public Notice No.498/2006 Coll. about authorized inspectors
- Public Notice No.500/2006 Coll. about local analytics materials, local planning documentation and method of recording local planning activities, as amended by Public Notice No.458/2012 Coll.
- Public Notice No.501/2006 Coll. about general requirements for land using
- Public Notice No.503/2006 Coll. about details of land-use decisions, local zoning measures and building system, as amended by Public Notice No.63/2013 Coll.
- Government Regulation No.361/2007 Coll., which establishing conditions for health protection at work
- Public Notice No.73/2010 Coll. about determination of reserved electrical technical equipment, their class groups and detailed conditions for their safety (Decree on reserved electrical technical equipment)
- Chemical substances and mixtures Act. No.350/2011 Coll., as amended by Act No.279/2013 Coll.
- Air protection Act. No.201/2012 Coll.
- Public Notice No.108/2011 Coll. about gas metering and information on the calculation of damages due to unauthorized consumption, unauthorized supply, unauthorized storage, unauthorized transport or unauthorized gas distribution
- Public Notice No.62/2011 Coll. about conditions for connection to the gas system and amending Decree of the Ministry of Industry and Trade No.251/2001 Coll., Laying down the rules for the operation of the transmission system and distribution systems in gas industry
- Public Notice No.401/2010 Coll. about the required content of the rules for the operation of the transmission system, the operating rules of the distribution system, the Order of the TSO, DSOs Order, the Order of the SSO and business conditions, market operator
- Public Notice No.13/1994 Coll., which provide for some details of agricultural land protection
- Public Notice No.177/1995 Coll., witch issues building and technical regulations of railways

VdTÜV-Merkblatt 1051 Wasserdruckprüfung von erdverlegten Rohrleitung nach dem Druck-Temperatur-Messverfahren (D-T-Verfahren)

VdTÜV-Merkblatt 1060 Richtlinien für die Durchführung des Stresstest

3.3 Directives of the European Community

- 2014/68/EU: Pressure Equipment Directive (formerly 97/23/EC)
- 2014/34/EU: Equipment and Protective systems intended for use in Potentially Explosive Atmospheres (ATEX) (formerly 94/9/EC)
- 2006/42/EC Machinery Directive (formerly 98/37/EC)
- 2014/30/EU: Electromagnetic Compatibility Directive (formerly 2004/108/EC)
- 2014/35/EU: Low Voltage Directive (formerly 2006/95/EC)

3.4 Basic Standards and Guidelines for Design and Construction

ČSN EN 1594	Gas infrastructure - Pipelines for maximum operating pressure over 16 bar - Functional requirements
ČSN 73 0804	Fire protection of buildings - Industrial buildings
ČSN 73 0831	Fire protection of buildings - Assembly rooms
ČSN 73 6005	Space arrangement of conduit of technical equipment
ČSN 01 3464	Drawings of engineering structures. External gas pipeline drawings.
ČSN 38 6405	Gas equipment. Principles for operation.
EN 12732+A1	Gas infrastructure - Welding steel pipework - Functional requirements
TPG 702 04	Steel gas pipelines and service pipelines for the maximum operating pressure up to 100 bar inclusive
TPG 609 01	Gas regulators for inlet pressure up to and including 4 bar. Placing and operation.
TPG 700 21	Leak location assemblies for gas mains and service pipes
TPG 700 24	Marking of pipelines, service pipes and accessories
TPG 702 05	Bracing gas piping inside hillsides
TPG 702 11	Cleaning and drying pipelines of all pressure levels after the construction
TPG 703 01	Industrial gas installation pipeworks
TPG 704 01	Gas installation pipework and appliances for buildings

TPG 905 01	Basic Requirements for Operational Safety of Equipment in Gas Industry
TPG 918 01	Odorization of natural gas
TPG 920 21	Corrosion protection of underground steel constructions. Selection of coating systems.
TPG 920 23	Corrosion protection of metal structures and equipment against atmospheric corrosion
TPG 920 24	High voltage test – operation principles
TPG 920 25	Mitigation of the corrosion effects of stray and interference currents on the buried structures
TPG 920 26	Cathodic protection of buried pipelines
TPG 923 01-1	Certification of processes testing the professional level and working qualities in the field of the gas installations
TPG 923 01	Certification of processes testing the professional level and working qualities in the field of the gas installations
TPG 927 03	Professional courses. Preparing people for obtaining expert to check the insulation of gas appliances stored in the ground or buried in ground
TPG 935 01	Section valves on steel gas pipelines
TPG 936 01	Specification for direct welded conical crossings and welded fittings T-90° for gas pipes
TPG 936 02	Specification for pipe bends made from spiral welded pipes by hot bending
TPG 943 01	Foaming agents for gas leak detection
TIN 702 12	Welding of branches and patches on the high-pressure gas pipelines under the gas pressure for selected parameters
MP_F03_00_03	Communication control system Dispatching N4G and subordinate stations
MP_F03_00_06	Operation systems STO and EPS
MP_I04_04_01_01	Technical protection of objects NET4GAS, s.r.o.
MP_I04_06_02_01	Methodical instruction IT-SECPOL for users
MP_I04_06_02_02	Methodical instruction IT-SECPOL for suppliers

MP_T01_05_01_02	Register and marking of the project and technical documentation
SM_I04_04_01	Management of physical security in NET4GAS, s.r.o.
SM_I04_06_02	Security Policy IT / IT-SECPOL
	SM_I04_07_01 Safety rules for the protection of information
SM_T01_01_01	Technical Support
TP_D02_00_01_01	Technical requirements for the construction, repair and renovation of cable lines NET4GAS
TS-B-2015	Technical Specification – Bends, Elbows
TS-A-11N4G011/6518	Technical Specification - Specification and data sheet – Control Valve
TS-DRT-2015	Technical Specification – T-pieces, reducing pipes, bottoms
TS-IS-15N4G75/6215	Technical Specification – Insulating connector
TS-KK-2015	Technical Specification – Ball valves for gas pipelines, compressor and regulating stations – dimensions 50 - 1400 mm
TS-RF-2015	Technical Specification – Flange/Flange joint by ANSI B.16.5 RF
TS-S-2015	Technical Specification – Wedge Gate Valves or Disk Gate Valves for High Pressure Pipelines
TS-SPI-2015	Technical Specification – Scraper Passage Indicator “PIG – SIG V”
TS-DTT-2015	Split 3way T – piece (TDW Type) with “Enclose Sure” Flange “LOR plug with guide bars” “ Blind Flange” NPS 20”/20”/20”, ANSI Class 600, RF DN 500/500/500 (PN63)
TS-TR-2015	Pipes