



NET4GAS, s.r.o

CS JIRKOV

Tagging and Numbering Philosophy

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Annex 1
Attachment 1.18

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1 SCOPE OF THE DOCUMENT

The scope of this document is to define the tagging system for all lines, valves, equipment, instruments and generated signals within the Compressor Station Jirkov project.

These tags shall be applied as labels to the valves and equipment for local identification and shall be used throughout all documents for SCADA and SCS systems consistently.

This document is directed to all suppliers of the equipment and engineering and construction services for the project mentioned above as well as to the operating and maintenance staff for the plant.

2 REFERENCE DOCUMENTS AND STANDARDS

The following documents and standards are referenced in this philosophy:

C4G-JI73-ILF-GENER-STR-DIA-100	Legend for Process Diagrams
ISO 3511-1	Process measurement control functions and instrumentation; symbolic representation – Basic requirements

3 ABBREVIATIONS

In this document the following abbreviations are used:

Abbrev.	Popis - CZ	Description - EN
AI	Analogický vstup	Analogue Input
AO	Analogický výstup	Analogue Output
CP	Katodická ochrana	Cathodic Protection
DI	Digitální vstup	Digital Input
DO	Digitální výstup	Digital Output
HVAC	Vytápění, ventilace a klimatizace	Heating, Ventilation and Air Conditioning
IR	Infračervený	Infra Red
JB	Spojovací skříňka	Junction Box

Abbrev.	Popis - CZ	Description - EN
LV	Nízké napětí	Low Voltage
LVD	Nízkonapěťový naftový generátor	Low Voltage Diesel Generator
MV	Střední napětí	Medium Voltage
VSD	Pohon s proměnnou rychlostí	Variable Speed Drive
UPS	Zdroj nepřetržitého napájení	Uninterrupted Power Supply

4 TAGGING CODE

The identification code of tags for valves, equipment and instruments is based on the existing NET4GAS identification system.

The identification code of pipe tags is taken from the HP Gas Pipeline Gazzelle and HP Gas Pipeline Moravia Projects and consist of six (6) fields.

The tagging system is described in more details in the following chapters.

4.1 Valves Tagging

4.1.1 System of Valve Tagging

The purpose of the valve shall be defined by a system code:

XX.000

This system code shall be constructed on the following basis:

XX: represents the identification code for the valves type classification;

000: represents the valve sequential number in the station.

Note: The sequence numbers for the new installed valves inside the existing stations shall be given starting from the last used number in related station.

4.1.2 Identification Codes of Valve Types

The following table provides the guidelines for the XX code classification for valves in accordance with existing NET4GAS identification system:

ID Code	Popis - CZ	Description - EN	DN
1	Kulový uzávěr	Ball valve	1400

ID Code	Popis - CZ	Description - EN	DN
2	Kulový uzávěr	Ball valve	1200
3	Kulový uzávěr	Ball valve	1000
4	Kulový uzávěr	Ball valve	900
5	Kulový uzávěr	Ball valve	800
6	Kulový uzávěr	Ball valve	700
7	Kulový uzávěr	Ball valve	500
8	Kulový uzávěr	Ball valve	300
9	Kulový uzávěr	Ball valve	100
10	Kulový uzávěr	Ball valve	80
11	Kulový uzávěr	Ball valve	50
12	Kulový uzávěr	Ball valve	200
13	Kulový uzávěr	Ball valve	150
14	Kulový uzávěr	Ball valve	600
15	Kulový uzávěr	Ball valve	20
16	Kulový uzávěr	Ball valve	125
17	Kulový uzávěr	Ball valve	25
18	Kulový uzávěr	Ball valve	400
19	Kulový uzávěr	Ball valve	250
20	Šoupě	Gate valve	700
21	Šoupě	Gate valve	500
22	Šoupě	Gate valve	300
23	Šoupě	Gate valve	200
24	Šoupě	Gate valve	150
25	Šoupě	Gate valve	100
26	Šoupě	Gate valve	80
27	Šoupě	Gate valve	50
28	Šoupě	Gate valve	25
29	Šoupě	Gate valve	400
30	Sedlový ventil	Globe valve	150
31	Sedlový ventil	Globe valve	50
32	Sedlový ventil	Globe valve	25
33	Sedlový ventil	Globe valve	15
34	Jehlový ventil	Needle valve	10
35	Ventil	Valve, gen	80
36	Ventil	Valve, gen	40
37	Kulový uzávěr	Ball valve	10
38	Kulový uzávěr	Ball valve	20
39	Kulový uzávěr	Ball valve	15
59	Bezpečnostní rychlouzávěr	Safety shut-off valve	-
60	Regulační armatura	Control valve	-
65	Kulový uzávěr	Ball valve	40
79	Zpětná klapka	Check valve	-

4.1.3 Example of Valve Tagging

Example: 3.2

XX: 3 identification code for Ball Valve in size DN 1000

000: 2 Valve sequential number: 2 (Second number within code 3)

4.2 Equipment Tagging

4.2.1 System of Equipment Tagging

The purpose of the equipment shall be defined by a system code:

XXX.000

This system code shall be constructed on the following basis:

XXX: represent the identification code for the equipment type classification;

000: represent the equipment number in the system.

Note: A sequence numbers for the new installed equipment inside the existing stations shall be given starting from the last used number in related station.

4.2.2 Identification Codes of Equipment Types

The following table provides the guidelines for the XXX code classification for equipment in accordance with existing NET4GAS identification system:

ID Code	Description - CZ	Description - EN	DN
40	Slepá Příruba	Blind flange	300
41	Slepá Příruba	Blind flange	250
42	Slepá Příruba	Blind flange	200
43	Slepá Příruba	Blind flange	150
44	Slepá Příruba	Blind flange	100
45	Slepá Příruba	Blind flange	80
46	Slepá Příruba	Blind flange	50
47	Slepá Příruba	Blind flange	25
48	Slepá Příruba	Blind flange	500
49	Slepá Příruba	Blind flange	700
54	Odfukový komín	Vent stack	-
55	Izolační spojka	Insulating coupling	-

ID Code	Description - CZ	Description - EN	DN
56	Filtr	Filter	-
57	Průřezový průtokoměr	Orifice meter	-
58	Předehřev	Preheating	-
73	Nádrž na kondenzát	Condensate tank	-
74	Odlučovač kondenzátu	Condensate separator	-
75	Odlučovač prachu	Dust (air) separator	-
76	Nádrž na metanol	Methanol tank	-
77	Čerpadlo na metanol	Methanol pump	-
78	Návarek odběrový bezpečnostní	Nipple sampling - safety	-
84	Komora	Scraper trap	-
85	Tvarovka	T-Piece	1400
86	Tvarovka	T-Piece	1200
87	Tvarovka	T-Piece	1000
88	Tvarovka	T-Piece	900
89	Tvarovka	T-Piece	800
90	Tvarovka	T-Piece	700
91	Tvarovka	T-Piece	600
92	Tvarovka	T-Piece	500
93	Tvarovka	T-Piece	300
95	TDW Dělená tvarovka	TDW Stopple fitting	1400
96	TDW Dělená tvarovka	TDW Stopple fitting	1200
97	TDW Dělená tvarovka	TDW Stopple fitting	1000
98	TDW Dělená tvarovka	TDW Stopple fitting	900
99	TDW Dělená tvarovka	TDW Stopple fitting	800
100	TDW Dělená tvarovka	TDW Stopple fitting	700
101	TDW Dělená tvarovka	TDW Stopple fitting	500
102	TDW Dělená tvarovka	TDW Stopple fitting	300
171	Záslepka potrubí	Spectacle Blind	1400
172	Záslepka potrubí	Spectacle Blind	1200
173	Záslepka potrubí	Spectacle Blind	1000
174	Záslepka potrubí	Spectacle Blind	900
175	Záslepka potrubí	Spectacle Blind	800
176	Záslepka potrubí	Spectacle Blind	700
177	Záslepka potrubí	Spectacle Blind	600

ID Code	Description - CZ	Description - EN	DN
178	Záslepka potrubí	Spectacle Blind	500
179	Záslepka potrubí	Spectacle Blind	400
180	Záslepka potrubí	Spectacle Blind	300
181	Distanční kroužek	Spacer	1400
182	Distanční kroužek	Spacer	1200
183	Distanční kroužek	Spacer	100
184	Distanční kroužek	Spacer	900
185	Distanční kroužek	Spacer	800
186	Distanční kroužek	Spacer	700
187	Distanční kroužek	Spacer	600
188	Distanční kroužek	Spacer	500
189	Distanční kroužek	Spacer	400
190	Distanční kroužek	Spacer	300
191	Záslepka	Blind	1400
192	Záslepka	Blind	1200
193	Záslepka	Blind	100
194	Záslepka	Blind	900
195	Záslepka	Blind	800
196	Záslepka	Blind	700
197	Záslepka	Blind	600
198	Záslepka	Blind	500
199	Záslepka	Blind	400
200	Záslepka	Blind	300

Note: The leading zeros shall not be used in XXX identification when Equipment has two digits.

4.2.3 Example of Equipment Tagging

Example: 84.1

XXX: 84 Equipment type: Scraper trap

000: 1 Equipment number: 1 (First number within code 84)

4.3 Instruments Tagging

4.3.1 System of Instrument Tagging

The purpose of the instruments shall be defined by a system code:

XX.000

This system code shall be constructed on the following basis:

XX: represent the identification code for the instrument type classification;

000: represents the instrument number in the system.

Note: Where the individual instrument is to be installed, the sequential number shall be given starting from the last used number in the existing station.

4.3.2 Identification Codes of Instrument Types

The following table provides guidelines for the XX code classification in accordance with the existing NET4GAS identification system:

ID Code	Description - CZ	Description - EN	DN
50	Manometr / smyčka	Pressure Gauge / loop	-
51	UPJ pig-sig	UPJ Pig-Signaler	-
52	Jímka	Thermowell	-
53	SMM	Measuring Point	-
70	Sonda měření kWh – pevná	Measuring Probe kWh – Fixed	
71	Sonda měření kWh – výsuvná	Measuring Probe kWh – Withdrawable	
78	Návarek odběrový bezpečnostní	Nipple Sampling - Safety	-
80	Snímač teploty	Temperature Transmitter	-
81	Snímač tlaku	Pressure Transmitter	-
82	Snímač průtoku - Anubar	Flow Transmitter - Annubar	-
83	Snímač rosného bodu	Dew Point Transmitter	-
111	Tlakový spínač	Pressure Switch	-
112	Převodník diferenčního tlaku	Pressure Difference Transmitter	-
113	Manometr diferenčního tlaku	Pressure Difference Gauge	-
121	Teplotní čidlo	Temperature Element	-
122	Spínač teploty	Temperature Switch	-
123	Indikátor teploty	Temperature Gauge	-
131	Převodník průtoku, US	Flow Transmitter, US	-

132	Převodník průtoku - obecný	Flow transmitter – General	-
133	Průtokový snímač	Flow Switch	-
141	Hladinoměr	Level Gauge	-
142	Převodník hladiny - obecný	Level Transmitter - General	-
143	Spínač hladiny - obecný	Level Switch - General	-
151	Spínač Vibrace	Vibration Switch	-
152	Rychlostní sonda	Speed Measurement	-
153	Analyzátor plynu	Gas Analyzer	-
154	Analyzátor H ₂ S	H ₂ S Analyzer	-
161	Kontrolní bod	Control Point	-
162	Tlačítko	Push Button	-

4.3.3 Example of Instrument Tagging

Example: 50.8

XX: 50 Instrument type: Pressure gauge

000: 8 Instrument number: 8 (Eight number within code 50)

4.4 Line Tagging

4.4.1 System of Pipe Tagging

The purpose of the pipes shall be defined by a system code:

DIM-AA-UUYYY-X-E-Z

This system code shall be constructed on the following basis:

DIM: denotes the nominal diameter of pipe without the prefix DN;

AA: defines the medium code flowing through the pipe;

UU: denotes the unit/system number;

YYY: the first digit is a unique identification for the subsystem/train sequence number followed by the two digits representing sequential number allocated for the station where the pipe is located;

X: represents the pipe design pressure;

E: represents if the pipeline is piggable

Z: represent the type of insulation

4.4.2 Identification Codes of Medium

The following abbreviations for the medium through pipe are available:

DC Condensate

DO Diesel Oil

GN Natural Gas

IA Instrument Air

IG Inert Gas

PA Plant Air

LO Lube Oil

4.4.3 Unit/system numbers

The following unit numbers are available:

00 Inlet / outlet

10 Main piping

20 Filters

30 Compressors

40 Coolers

50 Metering

60 Utilities

70 Spare

80 Civil

90 Electrical / ICT

4.4.4 Piggability of Pipeline

The following abbreviations for the piggability of pipeline are available:

N Nonpiggable line

P Piggable line

4.4.5 Identification Codes of Insulation Types

The following abbreviations for the insulation types of pipeline are available:

H	Heat insulation
T	Heat tracing with insulation
C	Cold insulation
P	Personal protection
N	Noise insulation
0	No insulation

4.4.6 Example of Pipeline Tagging

Example: 1000-GN-10101-DP73.5-N-0

DIM:	1000	Nominal diameter:	DN 1000
AA:	GN	Medium code:	Natural gas
UU:	10	Unit number:	Main piping
YYY:	101	Sequential number:	The first pipe within train/subsystem 1
X:	DP73.5	Design pressure:	73.5 barg
E:	N	Piggability:	Nonpiggable line
Z:	0	Insulation:	Uninsulated pipeline

4.5 Junction Boxes

4.5.1 System of Junction Box Tagging

Description of junction box type is followed with sequential number in the following format:

JBTYYY

T: type of junction box

YYY: sequential number

4.5.2 Types of Junction Boxes:

ID Code	Popis - CZ	Description - EN
JBC	analogové signály	analogue signals

JBS	digitální signály	digital signals
JBE	Jiskrově bezpečné	intrinsically safe
JBL	napájení	power supply

4.5.3 Range of Sequential Number According to the Cable Type

from 001 to 100	ATS instrumentation
from 101 to 300	Power supply
from 301 to 400	STO (Security systems)

4.5.4 Example of Junction Box Tagging

Example: JBS001

T: S Type of box: Box for digital signals

YYY: 001 Box number: 001

4.6 Electrical Cabinets

4.6.1 System of electrical Cabinets Tagging

Electrical Cabinets are tagged in accordance with following scheme:

CTXYYY

CT: represents type

X: represents cabinet group

YYY: represents sequential number

4.6.2 Types of Electrical Cabinets

ID Code	Popis - CZ	Description - EN
CI	Skříň instrumentace	Instrumentation cabinet
CL	Skříň napájení	Power cabinet
CV	Skříň pro systém vytápění, ventilace a vzduchotechniky	HVAC cabinet
CT	Skříň pro systém telekomunikace	Telecommunication cabinet

Sequential number is added in accordance with the system described for junction boxes.

4.6.3 Groups of Electrical Cabinets

- 0 No group
- 1 MV – Switchgear cabinets
- 2 LV Main distribution cabinets
- 3 UPC – Distribution cabinets
- 4 Diesel generator cabinets
- 5 VFD cabinets
- 6 Building distribution
- 7 Outdoor lighting cabinets
- 8 CP cabinets

4.6.4 Example of Electrical Cabinet Tagging

Example: CL6001

CT: CL	Type of cabinet:	power cabinet
X: 6	Group of cabinet:	Building distribution
YYY: 001	Box number:	001

4.7 Terminal Block

4.7.1 Terminal Block Tagging Scheme

The sequential number for each terminal block consists of title of junction box / electrical cabinet, where the terminal block is installed, followed with terminal block designation in order to distinguish terminal blocks in different junction boxes with the same designation, in the format:

+JBYYYY-TT-DD for junction boxes

+CTXYYY-TT-DD for electrical cabinets

+JBYYYY: junction box number

+CTXYYY: electrical cabinet number

TT: terminal block type

DD: terminal block sequential number

4.7.2 Type of Terminal Block

X1L	Svorkovnice napájení 230/400 VAC	230/400 VAC terminal strips
X2P X2M	Napájení instrumentace	Instrumentation power supply terminal strips
X3P	Řídící napětí 230V AC	Control voltage 230V AC
X4P X4M	Signální nebo řídící napětí 24V DC	Signalling or control voltage 24V DC
XC	Analogové signály	Analogue signals
XS	Ovládaní instrumentace	Instrumentation control (binary) signals terminal strips
XE	Jiskrově bezpečné signály	Intrinsically safe signals
XM	Signály MODBUS	MODBUS signals
XP	Signály PROFIBUS	PROFIBUS signals
XN	IEC 60870-5-104 protokol	IEC 60870-5-104 protocol

4.7.3 Example of Terminal Block Tagging

This numbering of individual terminal blocks is always connected with junction box or electrical cabinet, or control system.

Example 1: +CI6001-XE-2

+CTXYYY: +CI0001 Terminal block of intrinsically safe loop terminated in instrumentation cabinet No. 6001

TT: XE Terminal block type: Intrinsically safe

DD: 2 Terminal block sequential number Loop 2

Example 2: +JBC401-XC-2

+JBTYYY: +JBC401 Terminal block of analogue loop terminated in junction box No. 401

TT: XC Terminal block type: Analogue Signals

DD: 2 Terminal block sequential number Loop 2

4.8 Cables

4.8.1 System of Cables Tagging

CTDD

CT: cable type

DD: indicates location where the cable leads.

4.8.2 Cable Type "CT"

WL	Napájecí kabeláž	power supply cabling
WS	Ovládací (digitální) kabeláž	Cabling for digital signal
WC	Kabeláž analogických signálů	Cabling for analogue signal
WD	Silová ovládací kabeláž	Power controlling cabling
WE	Jiskrově bezpečná kabeláž	Intrinsically safe cabling
WM	MODBUS kabeláž	MODBUS cabling
WP	PROFIBUS kabeláž	PROFIBUS cabling
WN	IEC 60870-5-104 protokol	IEC 60870-5-104 protocol

4.8.3 Target Object

Target object can be for example valve.

Its number is defined in the different document, such as for example P&ID, single-line diagram, block diagram, situation etc.

4.8.4 Example of Cable Tagging

Examples:

WL2.2	Napájecí kabel pro MOV 2.2	Power supply cable for MOV 2.2
WS2.2	Kabel ovládacího signálu pro MOV 2.2	Control signal cable for MOV 2.2

WEPI81.1	Jiskrově bezpečný signální kabel pro snímač tlaku číslo 81.1	Intrinsically safe signal cable for pressure transmitter 81.1
WC60.9	Signální kabel analogové smyčky pro regulační armaturu 60.9	Signal cable of analogue loop of the control valve 60.9
WSJBC001	Kabel ovládacího signálu (binární) do spojovací skříňky JBC001	Control signal cable (Binary) to junction box JBC001
WLCI6001	Napájecí kabel pro skříň řídicího systému CI6001	Power supply cable to control system cabinet CI6001