

ORLEN Unipetrol RPA s.r.o.	Excess pressure safety devices	N 11 021
Engineering section		

The standard is binding for all entities (both physical and legal entities) participating operation, installation, maintenance and inspection of safety devices operated by ORLEN Unipetrol RPA s.r.o. Does not apply to the Litvínov and Kralupy refinery unit.

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Initial provisions

For the conditions of ORLEN Unipetrol RPA s.r.o., this standard specifies the provisions of legal regulations and technical standards relating to operation, maintenance and inspection of safety devices – safety/relief valves and rupture discs (burst discs) as specified in the legal requirements and standards referred to in Art. 12.

The operator is obliged to ensure that the production and work equipment and devices are maintained, inspected and revised in an appropriate manner and on a regular basis (Government Regulation no. 378/2001 Coll..)

Maintenance and repairs of the safety equipment within the company are secured in a contractual manner based on contracts concluded between UNIPETROL RPA, s.r.o. and a qualified service company (contractor).

The standard applies to all safety/relief valves, pressure safety elements and rupture discs/burst discs used by UNIPETROL RPA, s.r.o., on pressure equipment (PE) -

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designated pressure equipment (DPE) and non-designated pressure equipment (NDPE), including designated gas equipment (DGE) and other equipment.

1. Scope of validity

This standard is valid and applicable in ORLEN Unipetrol RPA s.r.o. Does not apply to the Litvínov and Kralupy refinery unit.

The obligation of external companies to accept and comply with this standard must be embedded in the corresponding contract for work or other similar contract concluded by and between UNIPETROL RPA, s.r.o. and the given contractor.

2. Terminology and definitions

Company	- ORLEN Unipetrol RPA s.r.o.
Safety devices	-these are the devices pursuant to ČSN 13 4309 part 1-4 – Industrial valves. Safety/relief valves and pursuant to ČSN EN ISO 4126 part 1-7 - Safety relief devices against excessive pressure. Furthermore, the safety devices are characterized as part of the safety accessories of designated and non-designated pressure equipment, including designated gas equipment. These are safety/relief valves and rupture disc/burst disc devices
Operator	- ORLEN Unipetrol RPA s.r.o. represented by its Executive Director in accordance with the Articles of Association. The Executive Director shall be responsible for ensuring that the funds entrusted by the employer are properly managed and that the assets are guarded and protected against damage, loss, destruction and misuse, and that it is not acted contrary to the employer's legitimate interests, and to ensure that the timely and effective measures are taken to protect its assets. It determines users and care takers for fulfilling related obligations by utilizing control, organizational and technical standards
User	- unit manager (for example, section director, plant director, department, production facility or section manager) to whom the operator entrusted assets for use. This person is responsible for compliance with the conditions for a safe and reliable operation pursuant to the instructions and regulations designated for its use, operation and service
Maintaining entity	- director of the technical unit or the service unit, head of technical support department, or site and asset manager or otherwise authorized employee, who is responsible for the technical condition of the designated individual groups of tangible assets, including maintenance, repairs, revisions and tests.
Client	- employee responsible for ordering work related to the maintenance of pressure equipment including safety devices and for selecting of contractors

Contractor	- authorized physical or legal entity, technically capable of installing and repairing the pressure equipment, including safety devices, which holds the appropriate TICR authorization pursuant to Section 6c, Paragraph 1, Letter b) of Act No. 174/1968 Coll., and which has a valid trade license
Attendance staff	- professionally qualified employee authorized by the operator to operate the technological equipment, who has been demonstrably acquainted with the operational and safety regulations and has been demonstrably tested before being authorized to operate
Stoker	- professionally qualified employee authorized by the operator who, after successfully passed TICR test, was issued with stoker's licence of the relevant class
TICR	- Technical Inspection of the Czech Republic
PE	- Pressure equipment includes containers, pipelines, safety equipment and pressure equipment; it also includes elements connected to parts that are exposed to pressure, such as flanges, necks, joints, supports, suspension eyes, etc. (pursuant to Government Regulation No. 26/2003)
DPE	- Designated pressure equipment, definition pursuant to Decree 18/1979 Coll. of the Czech Occupational Safety Office and the Czech Mining Office
DGE	- Designated gas equipment, definition pursuant to Decree 21/1979 Coll. of the Czech Occupational Safety Office and the Czech Mining Office
SPV	- Stationary pressure vessel
OI	- Inspection department
Inspector	- A dedicated employee responsible for technical integrity of the equipment within the entrusted section (as per asset register).
TSS	- Technical Services Section
AP	- Authorized Person
Protocol	- Protocol on inspection, repair and adjustment of safety/relief valve – document, template of which is attached to this standard. It must always be issued when the safety/relief valve is checked at the valve repair shop. In exceptional cases, another form of the report may be issued with the prior consent of the maintaining entity of the respective equipment

3. Safety devices as a part of PE safety accessories

Pursuant to Government Regulation No. 219/2016 Coll. these are specified products.

The PE safety accessories must ensure that the maximum working parameters, in particular the maximum allowable pressure, the maximum allowable temperature, or capacity or volume, are not exceeded.

For safe operation of the PE, the individual components of the safety accessories, including the excess pressure relief devices, must be regularly checked and maintained in working order.

Main principles:

The construction and material design of the valves must correspond to the operating parameters of the protected space, in particular pressure, temperature and operating fluid.

The colour differentiation shall be made in order to ensure unique identification the safety/relief valve fitted with the equalizing bellows. This shall be done over the entire circumference of the lid by an orange strip of at least 3 cm width, see Figure 1. Strip colour shade Hempadur 85671 (50900). The type of coating shall withstand operating and weather conditions and shall remain colour fast.

For safety/relief valves with the balancing bellows, the opening in the lid must be connected to the atmosphere and when installing the safety/relief valve onto position, check of passability of this opening must be carried out, the opening in the lid must lead to a safe place with respect to the attendance staff and other technological equipment. On the contrary, what concerns a conventional safety/relief valve, if the lid is provided with this opening, the opening is closed by a screw plug during operation.

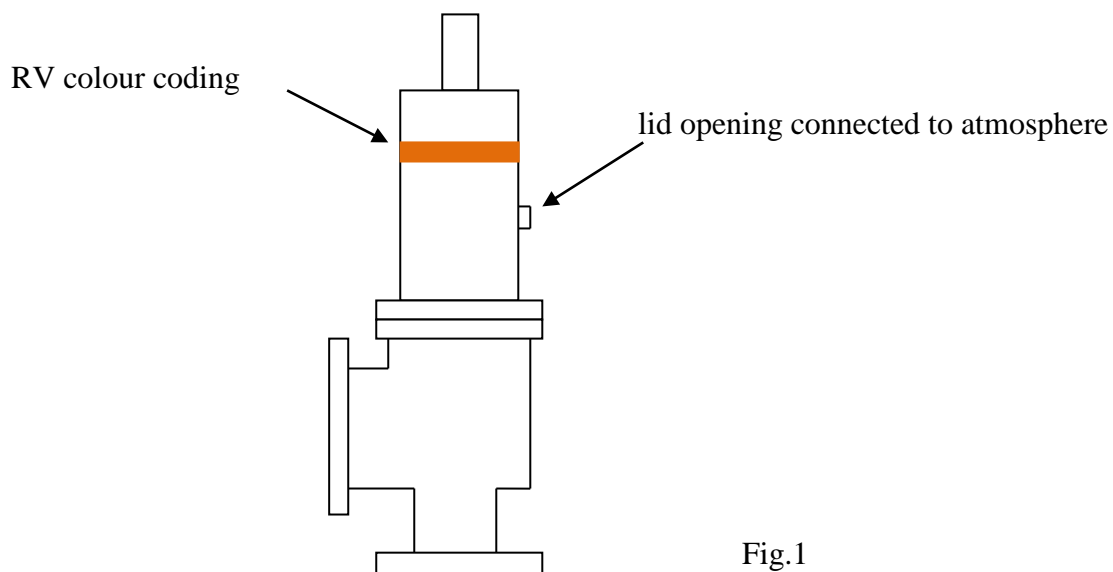


Fig.1

In order to prevent unauthorized increase in the opening pressure, each safety/relief valve, except for the weighted valve, must be sealed. A spring-loaded safety/relief valve without a seal or with a damaged seal is considered to be a valve with unknown opening pressure.

The weight of the weighted valve shall be made of one piece, and it shall be located at the end of the lever and its position shall be secured in the specified manner. The valve body, its lever and weight must be marked with the same number.

Each safety/relief valve must be adjusted and tested by a workplace authorized to do so (e.g. by TICC Prague).

Each safety/relief valve shall, before being submitted for adjustment, be marked on a body or on a plate permanently attached to the body of the valve, namely:

- label or number of the plant where it will be installed
- registration number (usually the serial number of the valve on the respective site)
- opening pressure.

This marking must be permanently “legible”. The opening pressure of the safety/relief valve can be at most equal to the max. working/calculation pressure/space of the device it secures.

The opening pressure of the steam boiler safety/relief valve must be in accordance with the value given for the relevant part in the boiler passport.

The safety/relief valve must be installed so that its plug is in the vertical position and must be accessible for inspection.

When accepting the equipment from repair or construction to operation, the PE user must receive a list of safety/relief valves that are installed in specific secured locations and an original protocol on verification of the opening pressure for the relevant valves.

Before commissioning, the PE user must check that the opening pressure of the installed safety/relief valves is in accordance with the information given in the documentation. This means checking that the opening pressure of the installed safety/relief valve (the value specified in the protocol) is in accordance with the pressure space to be protected. A similar inspection will be performed by the PE inspecting technician in scope of the initial revision.

If shut-off valves are installed upstream or downstream the safety/relief valve, these must be locked in the open position. The OI inspecting technician must check whether there is an opinion from the TICR authorities for built-in shut-off valves. The OI inspecting technician shall keep the original opinion in the pressure equipment passport.

The installation of shut-off valves upstream or downstream the safety/relief valve of the pressure vessel must be discussed with the TSS before implementation. The purpose of the discussion is to verify whether this is a legitimate requirement and to determine what documents must be submitted for negotiation with TICR for the processing of the permit or to arrange the difference from ČSN.

A protocol must be made on the adjustment and checking of the opening pressure of the safety/relief valve, confirmed by an authorized person who verified the adjustment of the valve. The protocol shall indicate the valve sealing. The protocol template is attached.

4. Obligations of the user

The manager responsible for PE operation, or an employee authorized by him/her in writing, is responsible for PE operation, including safety accessories including excess pressure safety devices, according to the regulations specified in Art. 11.

The user shall ensure safe operation of the equipment. He/she shall prepare a local operating regulation and follow the operation instructions, based on the technical documentation of the manufacturer of the safety devices (operating instructions).

The user shall keep, maintain and update the list of safety/relief valves, fuses and rupture discs (record new valves, discard irreparable valves, etc.).

The user is responsible for performing the prescribed safety/relief valve tests during operation. He/she shall keep records of these inspections, which he/she shall provide to the maintaining entity and OI inspecting technician.

This shall be responsible for meeting the deadlines for the revision of safety devices and shall apply the activities at the maintaining entity in accordance with Article 6.

5. Obligations of the maintaining entity

The maintaining entity shall keep PE including safety accessories in working order, i.e. safety devices against excessive pressure.

They provide repairs (revisions) of safety devices and prepare documents for handover of safety/relief valves to the contractor based upon issued reports of individual production (facility) teams as per the issued methodology „PSV REGISTER AND INSPECTIONS IN SAP SYSTEM“.

The methodology is available on:

https://docs.unipetrol.cz/Docs/UNIPETROL_RPA,s.r.o/TECHNICKÝ_ÚSEK/Odbor_údržby/Sekce_podpory_údržby/Aplikace-manuály/Návod_evidence_PSV-FINAL.pdf

Through the Client, they ensure at the Contractor inspections, tests, repairs, setting and adjustment of safety/relief valves in a specialist workshop for valve repairs. They shall keep records of these activities which they are obliged to provide to the user and the inspector again in accordance with the issued methodology „PSV REGISTER AND INSPECTIONS IN SAP SYSTEM“.

In scope of the maintenance documentation, they shall keep records of the inspection, test, repair, setting and adjustment of each safety/relief valve.

They shall keep and evaluate historical records of the results of the opening pressure measurements of each safety/relief valve in the valve repair workshop. Based on this data, they shall update the latest deadlines for subsequent inspections in the valve repair workshop in a form of revision procedure in SAP system as per the mentioned methodology „PSV REGISTER AND INSPECTIONS IN SAP SYSTEM“.

6. Obligations of the inspector

Based upon protocols on revisions of the safety/relief valves provided by the maintaining entity, this person shall carry out assessment of all parameters and propose potential corrections of the inspection periods to the operator – again in compliance with the described methodology „PSV REGISTER AND INSPECTIONS IN SAP SYSTEM“.

7. Inspection terms of the excess pressure safety devices

Type of safety device		Test date	Responsibility for implementation	Test carried out by
Safety/relief valves on SPV	- up to 4 MPa or up to 300 °C by lifting the plug	once per month	user	SPV attendance staff
	- toxic, caustic or otherwise dangerous liquids by lifting the plug	once every 12 months	user	SPV attendance staff
	- vessels with operating overpressure above 10 MPa by lifting the plug	once every 12 months	user	SPV attendance staff
	- other valves by lifting the plug	once every 4 months	user	SPV attendance staff
	- valves without equipment for checking the function	once every 12 months	maintaining entity	contractor - workshop for valve repairs
	- valves fitted with a rupture disc	once every 12 months	maintaining entity	contractor - workshop for valve repairs
	- rupture discs (burst discs)	according to operating instructions, manufacturer's documentation	maintaining entity	Maintaining entity (visual inspection)
Safety/relief valves on boilers	- up to operating overpressure 1,55 MPa by lifting of the plug	once per week	user	stoker
	- up to 4.5 MPa by lifting the plug	once per month		
	- above 4.5 MPa and for hot-water boilers	according to operating regulations, but no longer than once every 12 months	maintaining entity	contractor - workshop for valve repairs
Other types of safety devices	rupture discs (burst discs)	according to operating instructions, manufacturer's documentation	maintaining entity	Maintaining entity (visual inspection)
	overpressure-vacuum, anti-gust safety elements	according to operating instructions, manufacturer's documentation	maintaining entity	Maintaining entity (visual inspection), or contractor in a specialized workshop
Safety/relief valves of other equipment (pipelines, pumps, compressors, etc.)	according to type	according to operating instructions, manufacturer's documentation	maintaining entity	contractor - workshop for valve repairs
Safety/relief valves built into machines	according to type	according to operating instructions, manufacturer's documentation	maintaining entity	contractor - workshop for valve repairs

- **Safety/relief valves**

The inspection of each safety/relief valve must always be carried out with a proper internal revision of the protected device, but no later than within 5-year cycle and in case of boilers during the internal inspection. For safety/relief valves installed on pressure tanks for liquefied petroleum gas (LPG), the max. cycle is 6 years during operating inspection.

The safety/relief valves installed on SPV with toxic and caustic substances or other hazardous liquids can be tested by lifting the plug, provided that the safety device is connected to a closed off-gas system. If the safety device is not connected to the off-gas system, a periodic replacement of these safety/relief valves or inspection of the existing safety/relief valve shall be carried out at least once every 12 months instead of lifting the plug.

Relief valves installed on boilers with an operating pressure higher than 4.5 MPa and on hot-water boilers, if their design allows, can be tested during operation according to operating instructions. This test replaces the periodic 12-month inspection of the safety/relief valve according to the table, but does not replace the regular inspection of the safety/relief valve during the internal inspection of the boiler. The test result is recorded in the boiler operating log.

The passability of safety/relief valves installed on DPE, the design of which does not allow the plug to be lifted during operation, such as gas-tight safety/relief valves, shall be checked in a manner and within the time limits according to operating regulations, but at least once every 12 months.

In cases where it is not possible for any reason to perform safety tests of safety/relief valves installed on DPE during operation, it is possible to use other testing methods, e.g. TREVITEST system, in accordance with ČSN 69 0012 and N 11 005 in full operation, when it is possible to test safety/relief valves at all pressures, temperatures and media. This test fully replaces the setting of safety/relief valves on the test bench in the valve repair workshop as well.

In cases where it is not possible to perform safety tests of safety/relief valves installed on DPE during operation for any reason, it is not possible to disassemble the safety/relief valve for inspection into the valve repair workshop and it is not possible to use other testing methods such as TREVITEST, it is necessary to ask for a positive opinion of TICR with new testing dates. TICR opinion and consent is arranged by the user.

- **Rupture/bursting discs**

The rupture/bursting discs shall be inspected for damage to their surface and for being free of harmful deposits that could affect the bursting pressure above or below the specified value in the cycle specified by the equipment manufacturer. The method and frequency of inspections of rupture/bursting discs not installed under the safety/relief valve must be specified in the operation instructions and carried out according to the manufacturer's documentation. Safety discs installed under the safety/relief valve shall be inspected in the same safety/relief valve inspection cycle.

After each disc rupture, it is necessary to check the passability of the safety/relief valve above the disc, if fitted.

It is forbidden to repair rupture/bursting discs, they are only to be inspected. In the event of damage, they must be replaced with the same type and the documents supplied by the manufacturer will be kept by the maintaining entity.

- **Over-underpressure and anti-gust safety elements**

If, for any reason, it is not possible to disassemble at the position, or if any defect is found (damage, heavy contamination), the safety element must be dismantled and transported to the workshop where the safety element will be inspected. For safety elements, the manufacturer's instructions must be observed. Inspection and installation must be carried out by a person properly trained – authorized by the safety element manufacturer. The period of inspections of this type of safety devices is determined by the Fire Prevention Decree as follows.

- The operability of the fire safety devices shall be checked to the extent stipulated by legal regulations, normative requirements and accompanying documentation of its manufacturer at least once a year, unless the manufacturer, verified design documentation or implementation documentation or fire hazard assessment stipulate shorter deadlines.

8. Disassembly and assembly of safety/relief valves from a position to a position

Work permit must be issued for work according to S 465.

In operations where different conditions for the maintenance of safety devices are specified by local operating regulations, the responsible personnel must preferably comply with local regulations.

- **Disassembly of the safety/relief valve from position**

- Before disassembly it is necessary to check the correct positioning of the connecting pipeline and blocking valves (blind flanges).
- Secure possible leakage of hazardous substances into the surroundings.
- Check valve designation (designate if necessary) to avoid confusion during reassembly.

- **Transport of safety/relief valve to repair and back onto position**

- It is desirable to protect the contact surfaces of the flanges from damage.
- The set opening excess pressure and registration number must be stamped on the valve body.
- It is the responsibility of the carrier to ensure the transport of the safety/relief valve in the vertical position, to handle the valve carefully, especially the repaired valve, in order to avoid damage or change the setting values.
- For the repaired valve, the maintaining entity must require a completed repair protocol from the contractor (used to evaluate the repair and condition of the fitting).

- **Installation of the safety/relief valve in position**

- Observe the principles of cleanliness and protection of flange contact surfaces.
- The safety devices must be assembled to the correct position (usually the same, from which it was previously disassembled).
- During installation, check the registration number and the setting value of the opening pressure of the safety device stamped on the valve and in the protocol, so that it cannot be confused.
- The installation must be carried out in accordance with the manufacturer's instructions and the correct position of the device must be observed.
- Seal devices where required.
- If shut-off valves are up/downstream the safety/relief valve, they must be locked in the open position.

• **Conditions for installation of new, or replaced safety/relief valves**

Seq. No.	Title	Y/N
1	Supplied documentation	
2	<ul style="list-style-type: none"> • EU Declaration of conformity 	
3	<ul style="list-style-type: none"> • Certification of the safety device as per EU legislation with complete parameters 	
4	<ul style="list-style-type: none"> • Report of internal inspection of adjustment and passability, see N11 021 	
5	If design of the safety device corresponds, see N11 021 clause 3, it will be marked in colour in compliance with the quoted requirements.	
6	<p>Each safety/relief valve shall be marked on a body or on a plate permanently attached to the body of the valve, namely:</p> <ul style="list-style-type: none"> - label or number of the plant where it will be installed - registration number (usually the serial number of the valve on the respective site) - opening pressure including the units (MPa, bar). <p>This designation must be permanently "legible"</p>	
7	Each newly installed safety device must be properly sealed by a certified testing laboratory.	
8	<u>Prior to installation onto position</u> the safety device must be tested by a certified testing laboratory contracted by ORLEN Unipetrol RPA s.r.o.	
9	The installation of shut-off valves upstream or downstream the safety/relief valve of the pressure vessel must be discussed with the TSS of ORLEN Unipetrol RPA before implementation . The purpose of the discussion is to verify whether this is a legitimate requirement and to determine what documents must be submitted for negotiation with TICR for the processing of the permit or to arrange the difference from ČSN	
10	If the safety device is a part of the set as per PED 68/2014/EU (GR 219/2016 Coll. in the Czech Republic), assessment of sequence to the functional connection and installed equipment it is protecting. The inspection shall be carried out by the AO in scope of activities as „final assessment“.	

11	If the safety devices are a part of the DPE, the documentation as per clause 2-4 shall be part of the vessel/boiler passport.	
12	The stored valve or the valve not commissioned within 6 months from the last testing must be tested again pursuant to the clause 8, herein.	

9. Inspections and repairs of safety/relief valves by the contractor

Inspections and repairs of safety/relief valves in the workshop of valve repairs according to ČSN 13 4309-2 and this N 11 021 are carried out by a contracted contractor who is authorized for this activity, as specified in Art. 2. After completion of all work, the contractor's expert shall hand over the completed and signed protocol in duplicate to the responsible employee of the maintaining entity. The maintaining entity is responsible for filling the valve identification data correctly in the report.

- **Visual inspection**
 - After transport to the valve repair workshop, a visual inspection of the safety/relief valve is carried out by a specialist. In particular, the serial number, manufacturer's plate, visible mechanical damage to both the valve and contact surfaces, valve contamination, etc. are checked.
 - Ascertained defects shall be recorded by the contractor's specialist in the protocol.

- **Relief valve opening pressure test prior to repair (inspection)**
 - Prior to the repair (inspection) of the safety device, the contractor's specialist shall always inspect it and test the opening pressure.
 - After the safety/relief valve has been seated on the test bench, the pressure is increased gradually up to 80% of the nominal opening pressure. At this set pressure, the safety/relief valve is checked for leaks with a foaming solution. Possible leak inspection results are: *not leaking, slightly leaking, leaking*.
 - The pressure is gradually increased until the safety/relief valve is fully opened and the actual opening pressure is recorded. If the actual opening pressure differs by more than 10% from the required one, the maintaining entity shall be informed immediately.
 - During the opening pressure test before repair, there may be other problems with the safety/relief valve function, such as *impassable, jammed, seized, irreparable, non-functioning*, etc.
 - All found values and findings will be recorded by a specialist of the valve repair workshop in the protocol.

- **Repair (inspection) of the safety/relief valve**
 - Repair of the safety/relief valve is carried out according to the working procedures (and standards) of the repair shop.
 - The detailed repair procedure must be in accordance with the requirements specified by the safety/relief valve manufacturer.
 - Original spare parts must be used to replace damaged, corroded and worn parts.

- If parts are being repaired, their surfaces must be repaired to their original condition and the original dimensional tolerances specified by the manufacturer must be maintained.
 - The required opening pressure can only be changed based on an agreed technological change.
 - When repairing safety/relief valves, it is necessary to ensure that parts of the various safety/relief valves are not interchanged.
 - After the repair (inspection) it is necessary to check the tolerances of the assembled parts of the safety/relief valve, the spring preload must be carried out according to manufacturer's recommendations.
 - All found values and findings will be recorded by a specialist of the valve repair workshop in the protocol.
- **Checking the opening pressure and tightness of the safety/relief valve after repair (inspection)**
 - After the safety/relief valve has been assembled, it is necessary to test the required opening pressure and leak test on the test bench. The set opening pressure must correspond to the desired opening pressure specified in the safety/relief valve specification.
 - By increasing the pressure, the actual opening pressure is reached, which must correspond to the desired opening pressure. A deviation of not more than 3% between the set and the required opening pressure is permitted. If this condition is not met, the valve must be repaired again.
 - The pressure safety/relief valve is then depressurized, dried and a leak test is performed – the pressure is set to 90% of the required opening pressure. When applying the foaming solution, the safety/relief valve must be leak-proof. In case of another finding, it is necessary to make the repair again.
 - All found values and findings will be recorded by a specialist of the valve repair workshop in the protocol.

10. Evaluation of safety/relief valve repair (inspection)

Based on the submitted protocol, the responsible employee of the maintaining entity carries out an evaluation of the repair (inspection). The evaluation focuses on the parameters of the repaired (inspected) safety/relief valve - it detects the condition of functionality and safe operation of the safety/relief valve and the setting and verification of the opening pressure before and after repair (inspection).

- If the safety/relief valve is classified as non-functioning, non-repairable or incapable of safe operation after repair (inspection), it must no longer be operated and must be replaced.
- If the actual measured opening pressure differs by more than 10% from the set desired opening pressure during the pre-repair test (inspection), the next inspection date in the valve repair workshop is reduced by 2 years. The shortest possible time is 1 year. Intervals between repairs (inspections) – see Art. 6. Another period (shorter) may also be specified by the PE inspecting technician in the initial or operational PE inspection report.

- The maintaining entity shall keep records of historical records of safety/relief valve repairs (inspections) – see the „Protocol on inspection, repair and adjustment of the safety/relief valve“ pursuant to ČSN 13 4309-2, which constitutes the annex of this standard. The records are kept in the form of revisions and their processing in the SAP system pursuant to the methodology „PSV REGISTER AND INSPECTIONS IN SAP SYSTEM“.
- The maintaining entity shall update the dates for subsequent inspections in the valve repair workshop,
- The good awareness between the care taker, the user and the inspector must be ensured– ensuring the exchange of mutual information on the records, dates of future tests, inspections and repairs in compliance with the methodology for their recording.

11. Responsibility matrix

Activity	User	Maintaining entity	Inspector	Contractor
records of safety devices	R	C	C	I
performance of tests under operation	R	C	I	I
specification of the inspection dates and their provision	A	C	C	I
keeping the inspection dates	A	R	I	I
disassembly	C	C	-	R
inspections and repairs – valve repair workshop	I	I	-	R
assembly	C	C	-	R
result of inspection and repair – issue of the protocol	I	C	I	R
evaluation of the protocol and updating of follow-up inspection dates	C	R	C	I
Change in inspection period based on results of the inspections	R	I	A	I
acceptance for use	A	C	C	R

RACI matrix

R	RESPONSIBLE - EXECUTIVE „EXECUTOR“	„Executor“ is a person who really executes the given task, is responsible for implementation of the action. Execution may be shared. Degree of responsibility/accountability for execution is defined by the person with „A“.
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A	ACCOUNTABLE – RESPONSIBLE „held fully responsible for non-compliance“	„Accountable“ is a person who is fully accountable/responsible for the given task or a decision. It includes „yes“ or „no“ authority and the power of veto. Usually just one “A” may be assigned to the task.
C	CONSULT - CONSULTANT „Involved in the process”	„Consultant” is a role assigned to a person (usually having expert knowledge), who provides consultation before any final decision or action. This is a need of bidirectional communication. Access from defined position is always required.
I	INFORM - IS INFORMED „keep in the picture”	A person who must be informed of the adopted decision or implemented action. Based upon information received, the given person may adopt any measures. This is a unidirectional communication.

12. List of related and other legal regulations

- ČSN 69 0010 - Stationary pressure vessels. Technical rules
- ČSN 69 0012 - Stationary pressure vessels. Operational requirements
- ČSN 07 0710 - Operation, attendance and maintenance of steam and hot water boilers
- ČSN 13 0108 - Pipelines. Operation and maintenance of pipelines. Technical requirements
- ČSN 38 6405 - Gas installations. Principles of operation
- ČSN 38 6462 - Gas supply – LPG – Pressure stations, distribution and use
- ČSN EN 12817 and 19 - LPG equipment and accessories – Inspection and revisions of LPG containers of maximally 13 m³ volume
- ČSN 69 2501 - Rupture/burst discs . Discs or pressure vessels
- ČSN 13 4309-1 - Industrial valves. safety/relief valves. Part 1: Terms and definitions
- ČSN 13 4309-2 - Industrial valves. safety/relief valves. Part 2: Technical requirements
- ČSN 13 4309-3 - Industrial valves. safety/relief valves. Part 3: Calculation of outlets
- ČSN 13 4309-4 - Industrial valves. safety/relief valves. Part 4: Type tests
- ČSN EN ISO 4126-1 - Overpressure safety relief devices - Part 1:

Relief valves

- ČSN EN ISO 4126-2 - Overpressure safety relief devices - Part 2:
Safety devices with rupture/bursting discs
- ČSN EN ISO 4126-4 - Overpressure safety devices - Part 4:
Relief valves with auxiliary control
- ČSN EN ISO 4126-5 - Overpressure safety devices - Part 5:
Controlled safety pressure relief system (CSPRS)
- ČSN EN ISO 4126-6 - Overpressure safety devices - Part 6:
Use, selection and installation of the safety devices with
rupture/bursting discs
- ČSN EN ISO 4126-7 - Overpressure safety devices - Part 7:
General information
- ČSN 13 4309 Part 1-4 - Industrial valves. safety/relief valves
- API Standard 520 - Sizing, Selection, and Installation of Pressure-relieving Devices
Part II - Installation
- Decree no. 246/2001 Coll., On fire prevention
- Decree no. 18/1979 Coll., The Czech Occupational Safety Office and the Czech Mining
Office, which determines designated pressure equipment and stipulates
certain conditions to ensure their safety
- Decree no. 21/1979 Coll., The Czech Occupational Safety Office and the Czech Mining
Office, which determines designated gas equipment and stipulates some
conditions to ensure their safety
- Government Regulation No. 219/2016 Coll. as amended, laying down technical
requirements for pressure equipment.
- Government Regulation No. 378/2001 Coll. as amended, stipulating more detailed
requirements for safe operation and use of machines,
technical equipment, instruments and tools.
- S 465 – Work permitting
N 11 005 - Operating rules for pressure equipment
N 11 153 - Valves and safety/relief valves for high pressure equipment. TDP

**PROTOCOL ON INSPECTION, REPAIR AND ADJUSTMENT OF THE SAFETY/RELIEF VALVE
pursuant to ČSN 13 4309-2 and N 11021**

Protocol number		Client	
		order No.	
safety/relief valve reg. No.		location (site)	
		plant (section)	
type of valve		op. medium	
DN 1 (input)		DN 2 (output)	
type of test (<i>cross</i>)	cold		hot
test medium:			
requested relief pressure (MPa)			<i>cross the invalid</i>
actual relief pressure (MPa)	before repair		pass / fail
	after repair		pass / fail
leak test	before repair		pass / fail
	after repair		pass / fail
<i>prescribed checks (cross the requested)</i>			
inspection of marking			
visual inspection after disassembly and transport to the shop			
leak test before repair at 80 % of set relief pressure			
test of relief pressure before repair			
disassembly, inspection of individual components			
resetting of relief pressure + remarking			
leak test after repair at 90 % of set relief pressure			
test of relief pressure after repair			
other required activities (describe)			
<i>condition of safety/relief valve after disassembly and transport to the shop (cross the detected)</i>			
strong contamination		seat corrosion	
spring (corroded)		plug corrosion	
inlet flange (contaminated)		body corrosion	
outlet flange (contaminated)		damage of other parts	
seizing of movable parts		damage of plug, seat due to impurities	
other damage (describe)		no findings	
<i>executed activities (cross the executed ones)</i>			
visual inspection and inspection of marking		replacement/ repair of seat	
leak test before and after the repair		replacement/ repair of plug	
test of relief pressure before and after the repair		replacement/ repair of body	
disassembly		replacement/ repair of spring	
lapping / seat levelling		sealing holes in the body (against moisture)	
assembly		coating/painting	
sealing		bellows YES / NO	
other executed activities (<i>describe</i>)			
overall result after inspection and repair (<i>cross the invalid</i>)			pass - fail
date		first name, surname	signature
test carried out by:			
test approved by:			

**Example - PROTOCOL ON INSPECTION, REPAIR AND ADJUSTMENT OF THE
SAFETY/RELIEF VALVE**

pursuant to ČSN 13 4309-2 and N 11021

Protocol number	44287	Client	Jan Novotný
		order No.	5/894
safety/relief valve reg. No.	236/25	location (site)	2422
		plant (section)	oxo-synthesis
type of valve	spring	op.medium	nitrogen
DN 1 (input)	25	DN 2 (output)	25

type of test (<i>cross</i>)	cold	<input checked="" type="checkbox"/>	hot	<input type="checkbox"/>
test medium:	nitrogen			

requested relief pressure (MPa)		3,45	<i>cross the invalid</i>
actual relief pressure (MPa)	before repair	3,41	pass / fail
	after repair	3,45	pass / fail
leak test	before repair	leaking	pass / fail
	after repair	not leaking	pass / fail

<i>prescribed checks (cross the requested)</i>			
inspection of marking			<input checked="" type="checkbox"/>
visual inspection after disassembly and transport to the shop			<input checked="" type="checkbox"/>
leak test before repair at 80 % of set relief pressure			<input checked="" type="checkbox"/>
test of relief pressure before repair			<input checked="" type="checkbox"/>
disassembly, inspection of individual components			<input checked="" type="checkbox"/>
resetting of relief pressure + remarking			<input type="checkbox"/>
leak test after repair at 90 % of set relief pressure			<input checked="" type="checkbox"/>
test of relief pressure after repair			<input checked="" type="checkbox"/>
other required activities (describe)			

<i>condition of safety/relief valve after disassembly and transport to the shop (cross the detected)</i>			
strong contamination		seat corrosion	<input checked="" type="checkbox"/>
spring (corroded)	<input checked="" type="checkbox"/>	plug corrosion	<input type="checkbox"/>
inlet flange (contaminated)		body corrosion	<input type="checkbox"/>
outlet flange (contaminated)		damage of other parts	<input type="checkbox"/>
seizing of movable parts		damage of plug, seat due to impurities	<input type="checkbox"/>
other damage (describe)	no findings		

<i>executed activities (cross the executed ones)</i>			
visual inspection and inspection of marking	<input checked="" type="checkbox"/>	replacement/ repair of seat	<input checked="" type="checkbox"/>
leak test before and after the repair	<input checked="" type="checkbox"/>	replacement/ repair of plug	<input type="checkbox"/>
test of relief pressure before and after the repair	<input checked="" type="checkbox"/>	replacement/ repair of body	<input type="checkbox"/>
disassembly	<input checked="" type="checkbox"/>	replacement/ repair of spring	<input checked="" type="checkbox"/>
lapping / seat levelling		sealing holes in the body (against moisture)	<input type="checkbox"/>
assembly	<input checked="" type="checkbox"/>	coating/painting	<input checked="" type="checkbox"/>
sealing	<input checked="" type="checkbox"/>	bellows YES / NO	<input type="checkbox"/>
other executed activities (<i>describe</i>)			

overall result after inspection and repair (<i>cross the invalid</i>)	pass - fail
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date	24.12.2015	first name, surname	signature
test carried out by:	Josef Novák		
test approved by:	Jiří Nováček		