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SPOLANA s.r.o.

EXTRACTION OF APPARATUS CONTENTS USING VACUUM EQUIPMENT

Approved by:
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List of changes

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1 Purpose

This directive ensures the implementation of Technical Standard ST S7 T5 Extraction of apparatus contents using vacuum equipment of the parent company ORLEN S.A. into the regulatory framework of the ORLEN Unipetrol Group.

2 Scope

The document is valid for the following designated companies/branches:

- ☐ ORLEN Unipetrol a.s. ☒ ORLEN Unipetrol RPA s.r.o. ☒ BENZINA, branch
☒ POLYMER INSTITUTE BRNO, branch ☒ ORLEN Unipetrol Doprava s.r.o.
☒ PARAMO, a.s. ☒ SPOLANA s.r.o.

This edition replaces Directive 433/3 Extraction of apparatus contents using vacuum equipment, 1st edition dated May 6, 2022.

3 Terms, definitions, and abbreviations

Apparatus	- column, reactor, tank, or other equipment from which the contents are emptied.
Supplier	- a legal or natural person who, as a contracting party, is obliged to provide performance to the Company.
Sludge tanker (suction truck)	- a vehicle used to transport sludge (sediment) and wastewater in liquid form, equipped with a tank and infrastructure ensuring safe pumping, loading, unloading, and transport of liquid substances. It is used in industry, among other things, for the removal of sludge and sediments from wastewater separators, sewer sumps, and other closed and open tanks that form liquid waste from production processes. In terms of ADR, it is a tank for vacuum pumping of waste and wastewater.
Vacuum loader	- a vehicle on which a device (or separate device) is installed that creates a vacuum, which is used to extract/empty contents from devices installed in industrial units, equipped with a tank and infrastructure for extraction, or extraction, transport, and unloading.
Suction	- activities related to emptying the contents of apparatus using vacuum loaders.
Industrial unit production of	- production, distribution, and storage facilities, as well as other equipment for the petrochemical and refinery products as part of the refining of crude oil and other products in companies belonging to the ORLEN capital group.
Contents	- apparatus fillings in the form of solids, dust, used catalysts or adsorbents, which may contain explosive and/or flammable hazardous substances as a result of production processes or are prone to dustiness.
TPD	- Technical and operational-technological documentation provided by the manufacturer of machinery and equipment, which must contain the necessary information to enable the safe use of the equipment. The scope of the technical and operational-technological documentation must comply with the requirements set out in the directives relating to the equipment in question (Machinery Directive, Pressure Equipment Directive, ATEX and others, where applicable).
Work permit	- a set of technical and organizational measures specified in a prescribed form.
Maintainer	- Director of the technical department or the relevant Facility Management department, head of the relevant maintenance department, or the building and grounds management department, or another designated employee who is responsible for the technical condition of specific

	individual groups of tangible assets, including maintenance, repairs, inspections, and tests.
UNIRPA	- ORLEN Unipetrol RPA s.r.o.
User	- Head of department (e.g., director of a division, plant, or head of a department, production facility, or section) to whom the operator (company) entrusts the use of the property. He or she is responsible for complying with the conditions for safe and reliable operation in accordance with the instructions and regulations for its use, operation, and servicing.
Ordering party	- For the purposes of this directive, the customer is the user.

4 Purpose and scope, exceptions, application

4.1 Purpose and scope

- 4.1.1 To define safety rules for the process of extracting contents and residues from equipment using vacuum loaders.
- 4.1.2 Establishing minimum requirements for vacuum loaders used to extract contents and residues from industrial units of the ORLEN capital group companies.
- 4.1.3 Establishment of uniform safety rules for the extraction of contents from apparatus using vacuum loaders from industrial units of the ORLEN capital group companies.

4.2 Exceptions

- 4.2.1 The requirements set out in this directive do not apply to sludge tanks used for the extraction, transport and collection of hydrocarbon sludge and waste water.
- 4.2.2 The requirements set out in this directive do not apply to work carried out using vacuum loaders in a protective nitrogen atmosphere, but should serve as a guide for the organization of such work.
- 4.2.3 The requirements set out in this directive do not apply to standard loading/filling/unloading points for raw materials/products/semi-finished products into road tankers/rail tank wagons.

4.3 Application

The guidelines ensure the application of the requirements of the ORLEN S.A. standard to the appropriate extent in the companies of the ORLEN and ORLEN Unipetrol capital groups and ensure their transfer to their contractual suppliers by including them in the Binding Standards and Information on the websites of individual companies.

5 Requirements

5.1 Safety rules for performing the suction process using a vacuum loader

5.1.1 Information, method

- 5.1.1.1 As a rule, the gravity method (simple discharge) should be used as a priority for emptying the contents of devices.
- 5.1.1.2 Work using the vacuum method may only be carried out in exceptional cases (e.g. in cases where the gravity discharge method cannot be used), and only in compliance with the requirements of this directive.
- 5.1.1.3 Before commencing work related to suction, the contractor must familiarize themselves with the document describing and confirming the properties of the given filling.
- 5.1.1.4 If there is no document describing and confirming the properties of the given filling, it is always assumed, given the nature of the processes taking place inside the equipment, that each filling may have hazardous properties (explosiveness, flammability).
- 5.1.1.5 Before commencing work related to the extraction of the given filling, the contractor is obliged to ensure that the material already loaded inside the vacuum loader (unless the vacuum loader is empty and cleaned) is compatible with the filling

to be extracted (i.e., there is no risk of an undesirable chemical reaction). If this is not the case or if there are doubts, work must not commence until they have been resolved.

5.1.2 Restricting access to devices

- 5.1.2.1 When extracting contents from equipment using vacuum loaders, entry into the equipment should be avoided as much as possible.
- 5.1.2.2 First, the possibility of using an automated control system for extracting contents (without the operator entering the apparatus) should be examined.
- 5.1.2.3 If it is not possible to use automated control systems for extracting contents, persons may enter the apparatus, but only under the condition that they comply with the relevant internal regulations and guidelines applicable in the ORLEN Unipetrol Group relating to entry into hazardous/enclosed spaces.

5.1.3 Grounding, dust control, disconnection

- 5.1.3.1 Before starting work with a vacuum loader on the apparatus, the contractor shall determine with the user and maintainer a standard grounding point on the equipment to which the grounding of the loader in question will be connected. The maintainer shall confirm, based on previous checks, inspections, and physical examination on site, that the grounding point is in perfect condition and can be used for the required purpose. If any defects are found, work must not commence until they have been rectified.
- 5.1.3.2 If the grounding point is equipped with a grounding continuity indicator, this indicator must signal grounding continuity. If grounding continuity is not signaled, work must not commence until the fault has been rectified. The same procedure applies to the grounding continuity indicator on the vacuum loader.
- 5.1.3.3 If a standard grounding point is not available at the given location, the supplier, together with the user and maintainer, shall determine an alternative location for grounding, and the maintainer shall ensure that the effectiveness of the designated alternative grounding location is verified by the electrical maintenance standby service. If the designated location is not effective in terms of electrostatic charge dissipation, another alternative location must be designated. The designated location must be properly marked and a written report must be issued on the measurement performed. If the grounding continuity indicator on the vacuum loader does not signal grounding continuity, work must not be started.
- 5.1.3.4 Before starting work using the vacuum method, a representative of the production unit with the apparatus from which the contents are to be extracted (the user), together with the supplier, should check the possibility of sprinkling the contents with water (if technologically possible) to prevent them from drying out and reduce the risk of dust formation.
- 5.1.3.5 Before starting extraction, the equipment must be properly prepared, i.e., all energy/media supplies must be disconnected/blinded in accordance with the requirements described in the relevant internal regulations (blind plans, LOTO, etc.). The user is responsible for preparing the equipment.

5.2 Conditions for extracting apparatus contents using vacuum loaders

5.2.1 Customer, purchasing, supplier

- 5.2.1.1 The customer ordering work on the given equipment, i.e., vacuum extraction, is obliged to submit a document describing the properties of the given filling to the Purchasing Department together with the request. If a safety data sheet or relevant ADR classification document exists, these documents must also be attached. If these documents confirming the properties of the material to be extracted are not available, the request for work must include information that the given filling may have the properties of hazardous material (in terms of explosiveness and/or flammability) due to the conditions and processes in which this filling was used.
- 5.2.1.2 During the supplier selection phase, the Purchasing Department is obliged to provide potential suppliers with a description of the given filling together with a description of the conditions under which it was used. If no documents confirming the properties of the material to be extracted are available, the request for work must include information that the given filling may be a hazardous material (in terms of explosiveness and/or flammability) due to the conditions and processes under which this filling was used.
- 5.2.1.3 In the case of work performed on the basis of a framework agreement/order, the documents specified in Article 5.2.1.1, or the information specified in Article 5.2.1.2, to the contractor in a demonstrable manner before the commencement of work.

- 5.2.1.4 Before commencing work, the contractor is also obliged to prepare instructions for the safe performance of work based on a risk analysis, approved by its own professionally competent person in risk prevention. The contractor shall hand over these instructions to the client's representative before commencing work as part of the permit procedure (issuing of a work permit to work).
- 5.2.1.5 Before commencing work, the contractor is obliged to demonstrably familiarize all persons involved in the work in question with the requirements specified in the Written Work Permit and its annexes (e.g., risks of possible danger, the specified procedure for performing the work (see 5.2.1.4), conditions for the safe performance of work, etc.).
- 5.2.1.6 Extraction may only be carried out on the basis of a Written Work Permit.
- 5.2.1.7 Before starting work, the procedure in accordance with Articles 5.1.3.1 - 5.1.3.5 must be followed. In the case of the procedure according to Article 5.1.3.3, the grounding effectiveness inspection report, including a description of the measuring point (the so-called Functional Test Report) - grounding connection, must be attached to the Written Work Permit.
- WARNING! During work, it is not permitted to change the grounding location of the vacuum loader. If a change is required, work must be interrupted and steps 5.1.3.1 - 5.1.3.5 must be repeated. This change must then be noted in the Written Work Permit.**
- 5.2.1.8 System components designed for suctioning the filling (i.e., hoses, pipes, elbows, couplings, etc.) must be:
- made of suitable materials and connected in such a way as to allow effective dissipation of static electricity and must not contain elements that do not meet this requirement,
 - in proper technical condition,
 - accompanied by documentation confirming regular technical inspections in accordance with the Operating and Maintenance Manual.
- 5.2.1.9 The supplier is obliged to check the technical condition of all elements of the transport system every day before starting work. The inspection must be formally documented by a designated employee of the supplier and confirmed by his legible signature. For the purposes of carrying out the inspection, the supplier is obliged to keep a register in which he will record the daily inspections carried out.
- 5.2.1.10 The supplier must secure the workplace against access by persons not directly involved in the extraction process.

5.3 Minimum requirements for vacuum loaders used in the extraction of contents from apparatus

- 5.3.1 The supplier is obliged to ensure that the vacuum loader used to perform extraction and any transport of contents meets the following requirements:
- it undergoes the necessary technical and periodic inspections and has the necessary authorizations to perform the work in question,
 - it is adapted for the extraction of hazardous materials and dust,
 - it is equipped with a ground continuity indicator during operation of the extraction unit, which is part of the extraction unit,
 - If necessary for the transport of dangerous goods, the vehicle must have an ADR approval certificate (approval of the vehicle for the transport of dangerous goods in accordance with the ADR Agreement).
 - the means of transport must be correctly selected so that the tank code complies with the ADR Agreement and the material being transported, and the vehicle itself must have ADR documentation confirming that it is capable of transporting the type of dangerous goods in question,
 - in the case of the transport of dangerous goods, it must be marked in accordance with the ADR Agreement,
 - in the case of the transport of dangerous goods, the driver must be authorized to transport dangerous goods,
 - The supplier is prohibited from using a vacuum loader that has undergone any modifications without the consent of the manufacturer of this equipment. Any change must be confirmed by the relevant manufacturer's protocol, as well as by the relevant certification or supervisory authority, as required by law.

5.4 Minimum requirements for the operation of vacuum loaders used for extracting contents from devices

- 5.4.1 The supplier is obliged to ensure that persons operating vacuum loaders for extracting contents from apparatus:
- have the appropriate training and qualifications to operate the loader or vacuum equipment in question,
 - are familiar with the operating instructions and TPD for the vacuum loader in question,

- are familiar with the written work permit for the given activity, including its annexes,
- use appropriate personal protective equipment for the work performed.

5.5 Checklist

- 5.5.1 Once the technical condition of all elements of the transport system has been checked and the workplace is ready for work to commence, the contractor is obliged to complete the Checklist (see Appendix No. 1 to this directive) confirming compliance with the requirements of this directive before starting to extract the contents of the apparatus.
- 5.5.2 The completed and signed Checklist confirms that the workplace has been prepared safely. The Checklist must be available at the place of work throughout the entire duration of the work and must be presented upon request.

6 Responsibility

Responsibilities are set out in Chapters 4 and 5 of this directive.

7 List of related documents

ALL

International Agreement concerning the Carriage of Dangerous Goods by Road (ADR), as amended

ORLEN Unipetrol RPA s.r.o., including branch offices

Directive 402 Safety rules for employees of other organizations (applies only to UNIRPA without o.z.) Directive

402/1 Sanctions in the area of HSE (applies only to UNIRPA without o.z.)

Directive 402/2 Safety rules for employees of other organizations (applies only to BENZINA, o.z.)

Directive 416 Basic requirements for the implementation of a lockout and tagout system – LOTO (applies only to UNIRPA without o.z.)

Directive 418 Safe operation and use of machines, technical equipment, devices, and tools Directive 429

Work in hazardous areas

Directive 435 Work Permit () (applies only to Refinery Units)

Directive 465 Work Authorization (applies only to UNIRPA without o.z. and Refinery Units) Directive

465/1 Work Authorization (applies only to BENZINA, o.z.)

Directive 474 Chemical Substances and Mixtures (applies only to UNIRPA without o.z.) Directive 0600 Chemical Substances and Mixtures (applies only to POLYMER INSTITUTE BRNO, o.z.)

Directive 0600 Chemical substances and mixtures (applies only to POLYMER INSTITUTE BRNO, o.z.)

Directive 844 Maintenance of technological equipment (applies only to UNIRPA without o.z.)

N 11 006 Rules for electrical equipment (internal standard – applies only at UNIRPA without Refinery Units and applies at POLYMER INSTITUTE BRNO, o.z.)

PPU-801 Inspection Regulations MI 4.31 – Operating Rules for Electrical Equipment (internal standard – applies only to Refinery Units)

ORLEN Unipetrol Transport s.r.o.

Directive 25 Safety rules on the premises of UNIPETROL DOPRAVA, s.r.o. Directive

45 Health and safety in railway and rail transport operations Decision

2015/02 Work Permits

Directive 465 Work permits Directive 474

Chemical substances and mixtures

SPOLANA s.r.o.

- S-4.1.7. Appendix No. 8 Selected Offenses and Sanctions
- S-3.16.6 Working with Chemical Substances
- S-3.22.8 Handling chemical substances
- S-3.11.7 Preventive maintenance and inspection of electrical equipment
- S-3.11.5 Authorization of work on equipment and work under exceptional conditions

PARAMO, a.s.

- Directive 18-51 Basic regulation in the field of occupational safety
- Directive 18-53 Safety rules at Paramo, a.s.
- Guideline 18-58 Safe operation and use of equipment
- Guideline 18-07 Work Authorization
- Guideline 18-12 Chemicals and mixtures
- Directive 18-26 Inspection Rules for Electrical Equipment
- Directive 15-07 Application of ADR/RID at PARAMO, a.s.
- Directive 429 Work in hazardous areas

Appendix No. 1 Checklist

To complete the checklist correctly, tick the correct answer. If the answer NO is ticked for any of the questions, work cannot be started.

No	Requirement of the Directive	YES	NO	Comment
1	We have demonstrably familiarized all persons involved in the work in question with the requirements specified before commencing work. in the Written Work Permit and its annexes (e.g., potential hazards, specified work procedures, conditions for safe work performance, etc.)?			If the answer is "NO," the work is PROHIBITED!
2	Is the vacuum equipment to be used for the work suitable for the working conditions and can it be used to safely extract the contents of the apparatus (e.g., hazardous substances and dust)?			If the answer is "NO," the work is PROHIBITED!
3 A*	Has the maintenance technician confirmed that the standard grounding point is in perfect condition and can be used for the required purpose? (Applies only to 3A or 3B, see Note below)			If the answer is "NO," the work is PROHIBITED!
3 B	If no standard grounding point was available, was an alternative grounding connection point identified and its effectiveness verified? Was a written report issued on the effectiveness measurement performed? (Applies only to 3A or 3B, see Note below)			If the answer is "NO," the work is PROHIBITED!
4	Has a risk analysis been performed and have all persons involved in the work been demonstrably familiarized with the potential risks (as part of the familiarization with the Written Work Permit)?			If the answer is "NO," the work is PROHIBITED!
5	Have instructions for the safe performance of work been prepared and have all persons involved in the work been demonstrably familiarized with the specified work procedure and conditions for the safe performance of work (as part of the familiarization with the Written work permit)?			If the answer is "NO," the work is PROHIBITED!
6	Are all system components designed for extracting the contents (i.e., hoses, pipes, elbows, couplings, etc.) made of suitable materials and connected in such a way as to allow effective dissipation of static electricity?			If the answer is "NO," the work is PROHIBITED!
7	Has the prescribed daily inspection of the technical condition of all elements of the transport system (e.g., hoses, pipes, elbows, couplings) and is everything in order?			If the answer is "NO," the work is PROHIBITED!
8	Does the vacuum loader have all the necessary technical and periodic inspections and the necessary authorizations to perform the work, including the prescribed documentation?			If the answer is "NO," the work is PROHIBITED!
9	Is the vacuum loader equipped with a ground continuity indicator during operation of the suction unit, and is this indicator fully functional?			If the answer is "NO," the work is PROHIBITED!
10	If the vacuum loader is already loaded with material, has it been verified that this material is compatible with the contents to be extracted?			If the answer is "NO," the work is PROHIBITED!
11	Do the persons designated to operate the vacuum loader have the appropriate training and qualifications for its operation?			If the answer is "NO," the work is PROHIBITED!
12	Have the persons designated to operate the vacuum loader been demonstrably familiarized with the operating instructions for the vacuum loader?			If the answer is "NO," work is PROHIBITED!
Date and signature (legible) of the person who completed the checklist: Note: * Complete point 3A if using a standard grounding point (ignore 3B). Complete point 3B if using an alternative grounding point (ignore 3A). ** Point 10 is only assessed if the vacuum loader is already loaded with material before suction begins.				