

Date of Printing: 23. 11. 2023



Scope of Validity:

ORLEN Unipetrol Doprava s.r.o.

ORLEN Unipetrol RPA s.r.o. (including branches BENZINA and POLYMER INSTITUTE BRNO)

PARAMO, a.s.

SPOLANA s.r.o.

EXTRACTION OF APPARATUS FILLINGS USING VACUUM DEVICES

Approved by:

CEO / Executive Directors

Valid from:

6. 5. 2022

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Notice: change proceeding subjects to Directive No 821.

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1 Purpose

This directive implements a technical standard ST S7 T5 Extraction of apparatus fillings using vacuum devices of mother company, PKN ORLEN S.A. into rules and regulations of ORLEN Unipetrol Group.

2 Scope of Validity

The Document is valid for the marked companies / branches:

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

3 Terms, Definitions and Abbreviations

Apparatus	- a process column, reactor, tank or other installation, where the filling is extracted from.
Contractor	- a legal or natural person that is in a commercial law or civil law relationship with a company of the ORLEN Unipetrol Group and as a contracting party is obliged to provide contractual performance.
Sludge Tank (Suction Truck)	- Sludge tank (suction truck) - a vehicle used for transporting sludge (sediment) and wastewater in liquid form, equipped with a tank and infrastructure ensuring safe pumping, loading, unloading and transportation of liquid substances. It is used in industry, among other things, for the purpose of removing sludge and sediments from waste water separators, sewage pits and other closed and open tanks, forming liquid waste from production processes. In the sense of ADR, this is a tank for vacuum pumping of waste and wastewater.
Vacuum Device	- a vehicle on which a vacuum generating device is installed (or a separate vacuum generating device), which is used to extract/empty fillings from apparatus installed in industrial units, equipped with a tank and also with an infrastructure ensuring extraction, or extraction, transport, and unloading.
Extraction	- activities connected with extraction of apparatus fillings using vacuum devices.
Industrial Unit	- production, distribution and storage facilities, as well as other equipment for production of petrochemical and refining products within the framework of refining oil and other products in the companies of the ORLEN Capital Group.
Filling	- apparatus fillings in the form of solid substances, dust, used catalysts or adsorbents, which may contain explosive and/or flammable hazardous substances or are susceptible to dust as a result of production processes.
TPD	- technical and operational-technical documents provided by a manufacturer of machinery and devices, which must consist of necessary information enabling safe use of such machinery or equipment. The scope of such a technical and operational-technical documents shall follow requirements set by directives relating to the given device (machinery directive, pressure directive, ATEX, and if need be others).
Permit to Work	- a set of technical and organizational measures established through a prescribed form enabling to work on an industrial unit.
Maintainer	- technical division director or Facility Management head, head of relevant maintenance department or head of Buildings and Area Management Department or another designated employee, responsible for technical conditions of designated groups of material assets including maintenance, repairs, inspections/revisions and tests.

UNIRPA	- ORLEN Unipetrol RPA s.r.o.
User	- a head of a department (e.g. director of a division, plant, or head of a department, production facility or section) to whom the property is entrusted by the operator (company) for use. He is responsible for observing conditions for safe and reliable operation in accordance with instructions and regulations intended for its use, operation and service.
Customer	- for the purposes of this directive, the customer is the user.

4 Purpose and Scope, Exceptions and Application

4.1 Purpose and Scope

- 4.1.1 Setting safety rules for carrying out the process of extracting fillings and residues from apparatus using vacuum devices.
- 4.1.2 Setting minimal requirements on vacuum devices used for extraction of fillings and residues from industrial units of ORLEN Capital Group.
- 4.1.3 Setting unified safety rules for extraction of fillings and residues from apparatus using vacuum devices from industrial units of ORLEN Capital Group.

4.2 Exceptions

- 4.2.1 Requirements set by this directive do not apply on sludge tanks (suction trucks) used for safe pumping, loading, unloading and transportation of liquid substances (sludge/sediments/waste water).
- 4.2.2 Requirements set by this directive do not apply on activities carried out by vacuum devices in protective nitrogen atmosphere.
- 4.2.3 Requirements set by this directive do not apply on standard areas of loading/filling/unloading of raw materials/products/semiproductions on/from tank trucks/rail tank cars.

4.3 Application

This directive ensures application of requirements set by PKN ORLEN S.A. standard to an appropriate extent within ORLEN Capital Group/ORLEN Unipetrol Group companies and ensures their transmission on contractual parties via Binding Standards and Information listed on web sides of individual companies or in binding documents, which are being handed over to contractors.

5 Requirements

5.1 Safety Rules Concerning Performance of Extraction of Apparatus Fillings Using Vacuum Devices

5.1.1 Information, Method

- 5.1.1.1 As a rule, the gravity method (simple draining) should be preferably used for emptying the contents of the apparatus.
- 5.1.1.2 Vacuum method may be applied in exceptional cases only (e.g. in cases where the gravity discharge method can not be used), and under compliance with requirements set by this directive.
- 5.1.1.3 Contractor must familiarize itself with documents describing and confirming properties of the filling before commencing any work relevant to extraction of apparatus fillings using vacuum devices.
- 5.1.1.4 An assumption applies always, that each filling bears dangerous properties (as flammability, explosiveness) due to characteristics of processes taking place inside the apparatus if there is no document describing and confirming properties of the filling.
- 5.1.1.5 Contractor shall ensure itself, that already loaded material in the vacuum device (if the vacuum device is not emptied and cleaned) is compatible with the filling to be extracted from the apparatus (i.e. no risk of an unintentional chemical reaction) before commencing any work relevant to extraction of apparatus fillings.

Should it occur, that the emptiness and cleanliness is not assured or there are still doubts, the work must not be launched until this condition is resolved.

5.1.2 Restricting Entry of Persons into Apparatus

- 5.1.2.1 When extracting apparatus fillings using vacuum devices entry of persons into apparatus shall be to the maximum possible extent avoided.
- 5.1.2.2 First of all, the possibility of using an automated control system for extracting fillings (without the operator entering the apparatus) should be checked.
- 5.1.2.3 If utilization of automated control systems for extracting fillings is not possible, then persons may enter the apparatus however only under conditions set by internal regulations and directives valid within ORLEN Unipetrol Group relevant to entry of dangerous/confined spaces.

5.1.3 Earthing, Dust Reduction, Disconnection

- 5.1.3.1 Standard earthing point of the apparatus/installation for connecting the earthing of the vacuum device shall be designated by a contractor, maintainer and user before commencing any work. The maintainer confirms based on the former checks, inspections and physical check right at the place, that the earthing point is in a faultless conditions and it could be utilized. The work shall not be commenced until all imperfections are fixed, if found.
- 5.1.3.2 If the earthing point is equipped with an earthing continuity indicator, this indicator must signal earthing continuity. If earthing continuity is not indicated, work must not be started until the fault is rectified. The same procedure is followed with respect to the earthing continuity indicator on the vacuum device.
- 5.1.3.3 If there is no standard earthing point on the apparatus/installation, the contractor together with the user and maintainer shall designate an alternate place for connecting the vacuum device earthing and the maintainer shall then ask electrical maintenance emergency to check the efficiency of the alternate place for connecting the earthing. If the designated location is not effective with regard to electrostatic discharge, another alternate location must be designated. The designated place must be properly marked and a written report must be issued about the measurement performed. If the earthing continuity indicator on the vacuum device does not signal earthing continuity, work must not be started.
- 5.1.3.4 Before starting work using the vacuum method, the representative of the production unit with the apparatus from which the filling is to be extracted (the user) should, together with the contractor, check the possibility of sprinkling the filling with water (if it is technologically possible) to prevent it from drying out and reducing the risk of dust.
- 5.1.3.5 Before the work starts, the apparatus shall be adequately prepared, i.e. energy/media supplies disconnected/blinded in compliance with requirements set in relevant internal regulations (blind plans, LOTO, etc.). The user is responsible for preparation of the apparatus.

5.2 Conditions for Extracting Apparatus Fillings Using Vacuum Devices

5.2.1 Customer, Purchaser, Contractor

- 5.2.1.1 The customer of the work concerning use of vacuum devices is obliged together with the request on the work provide Purchase Division with a document describing properties of the given filling. If a MSDS is available and/or a document on classification according to the ADR, both documents shall be attached as well. If those documents confirming properties of the given filling to be extracted are not available, the request for work shall consist of information, that the given filling may bear dangerous properties (explosiveness and/or flammability) according to conditions and processes where the given filling was used.
- 5.2.1.2 The Purchase Division is during tender obliged to provide potential contractors with description of the filling as well as description of the conditions, under which it has been used. If there are not available documents which will describe and confirm properties of the filling to be extracted from an apparatus, the tender request shall consist of an information, that the filling may be a dangerous material (concerning explosiveness/flammability) with regard to conditions and processes where the given filling was used.

- 5.2.1.3 In case the works are done based on a framework contract/purchase, the customer hands over the documents cited in the article No 5.2.1.1 if need be information cited in the article No 5.2.1.2 in a provable way before work commencement.
- 5.2.1.4 Contractor is obliged to elaborate Instructions for Safe Execution of Work based on elaborated Risk Analysis approved by professionally qualified person in risk prevention before work commencement. Such Instructions shall be handed over to a deputy of the customer before work commencement when a Permit to Work is being prepared.
- 5.2.1.5 Contractor is obliged to familiarize in a provable way all persons participating on the work with the content of the Permit to Work and all its attachments (e.g. present risks, procedure of work (see article No 5.2.1.4), conditions for safe execution of work, etc.).
- 5.2.1.6 Extraction of apparatus fillings is possible only on the basis of a written Permit to Work.
- 5.2.1.7 Before work commencement it shall be proceeded in compliance with article No 5.1.3.1 - 5.1.3.5. If the procedure follows article No 5.1.3.3, a protocol on check of earthing efficiency including description of the area, where a measurement was done (so called Protocol on Functional Check) must be attached to the written Permit to Work.
- NOTICE! It is not allowed to change the earthing point during extraction works. If such a change is required, the works must be interrupted and procedure under articles No 5.1.3.1 - 5.1.3.5 must be repeated. Such a change must be subsequently projected into written Permit to Work otherwise the works could not continue.**
- 5.2.1.8 System elements designated for extraction of the filling (i.e. hoses, pipelines, pipe elbows, couplings, etc.) must be manufactured from suitable materials and connected in a way enabling effective discharge of static electricity.
- 5.2.1.9 Contractor is obliged to secure the workplace in order to avoid access of people who do not participate on the works.

5.3 Minimal Requirements on Vacuum Devices Used for Extraction of Apparatus Fillings

- 5.3.1 Contractor is obliged to ensure, that the vacuum device used for extraction of apparatus fillings, if need be for carriage of the filling, is in compliance with the following requirements:
- it has required technical and periodical checks and necessary certificates necessary for given work,
 - it is adapted for extraction of dangerous materials and dust,
 - it is equipped with earthing continuity indicator, which runs when the vacuum device is in operation and it is its inseparable part,
 - in case dangerous goods must be transported, it has ADR certificate on approval of the vehicle (approval of the vehicle for carriage of dangerous goods according to ADR),
 - the transport vehicle must be chosen in order the code of tank is in compliance with ADR and relevant for dangerous goods to be transported and the vehicle must be furnished with ADR documents confirming possibility to transport given dangerous goods,
 - in case of carriage of dangerous goods, the vehicle must be marked and labeled in compliance with ADR,
 - in case of carriage of dangerous goods, the driver must have a licence for transport of dangerous goods,
 - the contractor is not allowed to use modified vacuum devices without consent of the manufacturer. Any modification must be confirmed by manufacturer's protocol and relevant certifying or supervising body, as required by law.

5.4 Minimal Requirements on Vacuum Devices Operational Personnel

- 5.4.1 Contractor is obliged to ensure, that operational personnel of the vacuum devices:
- have relevant training and qualification concerning operation of such a device,
 - have been familiarized with operational manual and TPD of the device,
 - have been familiarized with Permit to Work for a given work and all its attachments,
 - utilize relevant personal protective equipment for a given work.

6 Responsibility

Responsibilities are set in chapter 4 and 5 of this Directive.

7 List of Related Documents

EVERYBODY

Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) in last wording

ORLEN Unipetrol RPA s.r.o. including its branches

- Directive 402 Safety Rules for Workers of Other Organizations (without branches)
- Directive 402/1 HSE Sanctions (without branches)
- Directive 402/2 Safety Rules for Workers of Other Organizations (branch BENZINA only)
- Directive 416 Basic Requirements on Lock-Out and Tag-Out (LOTO) System Implementation (without branches)
- Directive 418 Safe Use of Machinery, Technical Equipment, Devices and Tools
- Directive 429 Work in Dangerous Spaces
- Directive 435 Permit to Work (Refineries only)
- Directive 465 Permitting Works (without Refineries and branches)
- Directive 465/1 Permitting Works (branch BENZINA only)
- Directive 474 Chemical Substances and Mixtures (without branches)
- Directive 0600 Chemical Substances and Mixtures (branch POLYMER INSTITUTE BRNO only)
- Directive 844 Maintenance of Technological Equipment (without branches)
- N 11 006 Rules for Electrical Equipment (internal standard – without Refineries and BENZINA)
- PPU-801 Inspection Rule MI 4.31 – Rules for Operation of Electrical Equipment (internal standard – Refineries only)

ORLEN Unipetrol Doprava s.r.o.

- Directive 25 Safety Rules in Areas of UNIPETROL DOPRAVA, s.r.o.
- Directive 45 Safety and Health Protection During Operation of Railway and Rail Transport
- Decision 2015/02 Permitting Works

SPOLANA s.r.o.

- S-4.1.7. Annex No 8 Selected Breaches of Regulations and Sanctions
- S-3.16.6 Work with Chemical Substances
- S-3.22.8 Handling Chemical Substances
- S-3.11.7 Rules of Preventive Maintenance of Electrical Equipment and Inspections
- S-3.11.5 Permitting Work on Equipment and under Extraordinary Conditions

PARAMO, a.s.

- Directive 18-51 Basic Regulation Concerning Safety at Work
- Directive 18-53 Safety Rules of Paramo, a.s.
- Directive 18-58 Safe Use and Operation of Equipment
- Directive 18-07 Permitting Works
- Directive 18-12 Chemical Substances and Mixtures

Directive 18-26	Inspection Rules of Electrical Equipment
Directive 15-07	ADR/RID Application within PARAMO, a.s.
Directive 429	Work in Dangerous Spaces