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

SAFE OPERATION OF SLUDGE TANKS WHEN PUMPING OUT HYDROCARBON SLUDGE

Approved by: executives	General Director / Company
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List of changes

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Note: Change management is carried out in accordance with Directive 821.

Contents

1 Purpose

This directive ensures the implementation of Technical Standard ST S7 T6 Safe Operation of Sludge Tanks (ASN) when pumping hydrocarbon sludge from the parent company PKN ORLEN S.A. into the ORLEN Unipetrol Group's regulatory base.

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.

3 Terms, definitions, and abbreviations

Camera	-	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.
ADR Agreement	-	Agreement concerning the International Carriage of Dangerous Goods by Road.
Slurry tanker (suction truck)	-	vehicle used for transporting sludge (sediment) and liquid waste water 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 contain liquid waste from production processes. In terms of ADR, it is a tank for vacuum pumping of waste and wastewater.
LOTO	-	"Lock-Out Tag-Out" is a system that ensures that during work on equipment, there is no accidental connection/activation/release of disconnected/switched off/restrained and secured energy sources.
The process of pumping out hydrocarbon sludge	-	activities related to emptying wastewater separators, sewage sumps, and other equipment and elements of industrial and sewage networks, i.e., the pumping of liquid substances containing petroleum components.
Industrial unit production	-	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.
Hydrocarbon sludge	-	sludge/sediments that may contain petroleum-derived substances, found in wastewater separators, sewage pits and other wastewater treatment facilities and elements of the sewage network that are part of wastewater from production/storage and distribution processes.
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 (directives on machinery, pressure equipment, ATEX and others, where applicable).
Work permit	-	a set of technical and organizational measures specified by a prescribed form

Maintainer	-	Director of the technical department or relevant Facility Management unit, head of the relevant maintenance department or building and grounds management department, or other designated employee responsible for the technical condition of specific groups of tangible assets, including maintenance, repairs, inspections, and testing.
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.
Client	-	for the purposes of this directive, the customer is the user.

4 Objective and scope, exceptions, application

4.1 Purpose and scope

4.1.1 Establishment of safety rules for the process of pumping hydrocarbon sludge using sludge tanks designed for this purpose.

4.1.2 Establishment of minimum requirements for sludge tanks used for the process of pumping hydrocarbon sludge from industrial units belonging to companies from the ORLEN capital group.

4.1.3 Ensuring uniform safety rules for the pumping of hydrocarbon sludge from industrial units belonging to companies in the ORLEN capital group.

4.2 Exceptions

4.2.1 The requirements set out in this directive do not apply to sludge tanks used for the pumping, transport and collection of municipal wastewater.

4.2.2 The requirements set out in this directive do not apply to the extraction of apparatus contents using vacuum loaders, as the requirements for this case are covered by Directive 433/3 "Extraction of apparatus contents using vacuum equipment".

4.3 Application

The directive ensures that the requirements of the PKN ORLEN S.A. standard are applied to the appropriate extent in the companies of the ORLEN Group and ORLEN Unipetrol, and also ensures that they are transferred to their contractual suppliers by including them in the Binding Standards and Information on the websites of individual companies or in binding documents provided to suppliers.

5 Requirements

5.1 Safety rules for the process of pumping hydrocarbon sludge using sludge tanks

5.1.1 Information

5.1.1.1 Before commencing work related to the pumping of hydrocarbon sludge, the supplier is obliged to familiarize themselves with the document describing the properties of the sludge in question (e.g., hazardous waste identification sheet) in order to select a suitable sludge tanker adapted to the sludge in question.

5.1.1.2 If there is no document describing and confirming the properties of the sludge in question, it is assumed, based on the properties of the processes from which the sludge may originate, that it may have hazardous properties (explosiveness, flammability).

5.1.2 Restricting access to sumps/separators/sewers

5.1.2.1 When extracting sludge using sludge tanks, it is necessary to avoid people entering the sumps/separators/sewers as much as possible.

5.1.2.2 If it is necessary for persons to enter the sump, separator, tank, sewer, etc., such entry must only take place in compliance with the relevant internal regulations applicable within the ORLEN Unipetrol Group relating to entry into hazardous/confined spaces.

5.1.3 Grounding, disconnection

5.1.3.1 Before starting work with the sludge tanker, the contractor shall determine with the user and maintainer a standard grounding point on this equipment to which the sludge tanker shall be properly 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 sludge tank.

5.1.3.3 If a standard grounding point is not available at the given location, the contractor, together with the user and maintainer, shall determine an alternative location for grounding, and the maintainer shall ensure, through the electrical maintenance standby service, that the effectiveness of the designated alternative location for electrostatic charge dissipation is verified. If the designated location is not effective with regard to the discharge of electrostatic charge, another alternative location must be determined. 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 sludge tank does not signal grounding continuity, work must not be started.

5.1.3.4 Preparation of the equipment by disconnecting/blinding all supply lines in accordance with the requirements described in the relevant internal regulations (mechanical separation, blanking plans, LOTO, etc.) shall only be applied where appropriate/required. The user is responsible for preparing the equipment for repair.

5.2 Conditions for sludge pumping using sludge tanks

5.2.1 Client, purchasing, supplier

5.2.1.1 The customer ordering work on the given equipment, i.e., sludge pumping, is obliged to submit a document describing the properties of the given sludge to the Purchasing Department together with the request. If a safety data sheet/hazardous waste identification sheet or relevant ADR classification document exists, these documents must also be attached. If there are no documents confirming the properties of the sludge to be pumped out, the request for work must include information that the sludge may have the properties of hazardous material.
(in terms of explosiveness and/or flammability) given the conditions and processes from which it originates.

5.2.1.2 When securing a supplier, the Purchasing Department is obliged to provide potential suppliers with a description of the sludge in question, together with a description of the conditions/processes from which it originates. If there are no documents confirming the properties of the sludge to be pumped out, the request for work must include information that the sludge may be hazardous material (in terms of explosiveness and/or flammability) due to the conditions and processes from which it originates.

5.2.1.3 Before commencing work, the contractor is also obliged to prepare instructions for the safe performance of work, approved by its own professionally competent person in risk prevention, based on the risk analysis.

5.2.1.4 Before commencing work related to the pumping of hydrocarbon sludge, the contractor is obliged to ensure that the material already loaded inside the sludge tank is compatible with the sludge to be pumped (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.

5.2.1.5 Before commencing work, the contractor is obliged to demonstrably familiarize all persons involved in the work in question with the requirements specified in the Work Permit and its annexes (e.g., potential hazards, the specified procedure for performing the work, conditions for safe performance of the work, etc.).

5.2.1.6 Pumping may only be carried out on the basis of a Work Permit, taking into account the need to carry out regular analytical checks of the atmosphere for explosiveness during the work. A Work Permit is not required if the work is performed by the company's own employees (of the ORLEN Unipetrol group), using the company's own sludge tanks in accordance with the operating regulations/work procedures

with which all employees performing such activities are demonstrably familiar and which ensures that all relevant requirements set out in this directive are met.

5.2.1.7 Before commencing work, the procedures set out in Articles 5.1.3.1 - 5.1.3.4 must be followed. In the case of the procedure set out in Article 5.1.3.3, a report on the effectiveness of the earthing, including a description of the measuring point (the so-called Functional Test Report) - earthing connection must be attached to the Work Permit.

WARNING! During work, it is not permitted to change the grounding location of the sludge tank. If a change is required, work must be interrupted and the procedure in Articles 5.1.3.1 - 5.1.3.4 must be repeated. This change must then be noted in the Work Permit.

5.2.1.8 System components designed for pumping hydrocarbon sludge (i.e., hoses, pipes, elbows, couplings, etc.) must be made of materials that allow for effective dissipation of static electricity.

5.2.1.9 The contractor must secure the workplace against access by persons not directly involved in the pumping operation.

5.2.1.10 When pumping flammable liquids, where the suction truck has two inlets (upper and lower), the lower (unloading) inlet must always be used.

5.2.2 Wind direction and safe distances

5.2.2.1 The supplier is obliged to place the sludge tank in such a way that the waste gases from the tank are safely dispersed into the surrounding area, i.e. taking into account the direction of the wind and the direction of the waste gas exhaust. The direction of the waste gas exhaust and the direction of the wind must be identical; the direction of the waste gas exhaust must be downwind.

5.2.2.2 There must be no hot surfaces in the direction of waste gas dispersion for at least 10 m, which could cause the dispersed waste gases to ignite.

5.2.2.3 It is prohibited to carry out work with open flames within a radius of 30 meters from the site of work related to the pumping of hydrocarbon sludge.

5.2.2.4 In case of variable weather conditions (variable wind direction), the entire activity must be continuously monitored and, if necessary, work must be stopped immediately.

5.2.3 Unloading

5.2.3.1 If transport is carried out exclusively internally within individual operations and unloading is to be carried out at another industrial unit within the site, the requirements/conditions set out in this directive shall also apply to unloading to the extent appropriate.

5.3 Minimum requirements for sludge tankers used for pumping hydrocarbon sludge

5.3.1 The supplier must ensure that the sludge tanker:

- has undergone the necessary inspections and has a valid annual technical inspection, as well as the necessary authorizations to perform the work in question,
- has an ADR approval certificate (approval of the vehicle for the transport of dangerous goods),
- has been selected so that the tanker code complies with the ADR agreement and corresponds to the substance being transported,
- is equipped with an explosion-proof (EX) vacuum pump,
- has an electrical safety switch that allows the driver to disconnect the battery from the electrical system at any time during the pumping/unloading process,
- is powered by a diesel engine.

5.3.2 The supplier is obliged to ensure that all elements of the sludge tanker that come into contact with the pumped substance (such as hoses, pipes, elbows) are in good technical condition, are capable of dissipating electrostatic charge, and have been effectively grounded before work commences.

5.3.3 When transporting dangerous goods, the sludge tanker must be marked in accordance with ADR requirements and, in the case of transport outside an industrial unit/premises, must also be equipped with the relevant accompanying documents in accordance with ADR.

5.3.4 The contractor is prohibited from using a sludge tank that has undergone any modifications without consent. manufacturer of this equipment. Any changes must be confirmed by the manufacturer's relevant protocol and also by the relevant certification or supervisory authority, as required by law.

5.4 Minimum requirements for the operation of sludge tanks used for pumping hydrocarbon sludge

5.4.1 The supplier is obliged to ensure that persons operating sludge tanks for pumping hydrocarbon sludge:

- have the appropriate training and qualifications to operate sludge tanks,
- the driver has an ADR driver training certificate (when transporting dangerous goods within the meaning of ADR),
- are familiar with the operating instructions and TPD for the sludge tanker in question,
- were familiarized with the Work Permit for the given event, including its annexes,
- used appropriate personal protective equipment for the work performed.

6 Responsibilities

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 Directive 433/3 "Extraction of apparatus contents using vacuum equipment"

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

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 at UNIRPA bez o.z.)

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

429 Work in hazardous areas

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

Directive 465 Work Permits (applies only to UNIRPA without o.z. and Refinery Units) Directive 465/1

Work Permits (applies only to BENZINA, o.z.)

Directive 474 Chemical substances and mixtures (applies only at UNIRPA without o.z.)

Directive 0600 Chemical substances and mixtures (applies only at POLYMER INSTITUTE BRNO,

o.z.) Directive 844 Maintenance of technological equipment (applies only at 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 Doprava 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

SPOLANA s.r.o.

S-4.1.7. Appendix No. 8 Selected offences and

sanctions S-3.16.6 Work with chemical substances

S-3.22.8 Handling of 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 regulations in the area of occupational
safety Directive 18-53 Safety rules at Paramo, a.s.
Directive 18-58 Safe operation and use of equipment
Directive 18-07 Work Authorization
Directive 18-12 Chemical substances 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