PUBLIC COMPANY ORLEN LIETUVA

APPROVED BY
8 March 2023
Order No. TV1(1.2-1)-2023-0095 of
General Director

OCCUPATIONAL HEALTH AND SAFETY PROCEDURE BDS-27 HIGH-RISK WORKS

I. GENERAL PROVISIONS

Purpose and Scope of Application

1. Occupational Health and Safety Procedure BDS-27 'High-Risk Works' (hereinafter, the Procedure) aims at defining the procedure for decision-making to authorize the performance of high-risk works otherwise than established in the effective Public Company ORLEN Lietuva (hereinafter, the Company) Occupational Health and Safety (hereinafter, OHS) Procedures applicable for performance of hazardous works (maintenance of units, unsealing, hot works and works in confined spaces) as well as establishing the requirements applicable to such works.

2. The Procedure shall apply to all employees of the Company and, to the extent required by a relevant contract concluded with the Company, to employees of contracting organizations (hereinafter, the Contractors) involved in arranging, planning and/or performance of high-risk works at the Company.

II. TERMS AND DEFINITIONS

3. Terms and definitions used herein:

Equipment – any piece of equipment, machine, vessel, pipeline etc. that presents a risk to health and safety of employees due to hazardous energy accumulated in such equipment or supplied from other sources.

High-risk works – repair works at extreme, non-standard conditions using methods other than those provided in OHS Procedures of the Company applicable to hazardous works (maintenance of units, unsealing, hot works and works in confined spaces). High-risk works may include:

– Tie-in (hot tapping) into operating equipment using drilling (milling) machine (minimum OHS requirements listed in Attachment 2 hereto);

– Repair of partly prepared (not steamed-out) pipeline using special plugs (cameras) (minimum OHS requirements listed in Attachment 3 hereto);

– Installation of clamps on operating pipelines, which contain, as operating fluid, the flammable liquids or gases, steam or superheated water of pressure above 0.5 bar and operating temperature above 110 ºC (minimum OHS requirements listed in Attachment 4 hereto);

– Entry into and work in confined spaces in nitrogen environment;

– Replacement of safety valves on operating equipment in the absence of duplicating valves.

Risk Management Group (hereinafter, RMG) – a group of the Company' specialists consisting of RMG Chair, i.e. Director of the Company's organizational unit, where high-risk works are required (Director of Production, Director of Energy, or Director of Logistics), and members of RMG, i.e. Deputy Director of Maintenance, Equipment Technical Supervision and Materials Analysis Manager, and Occupational and Process Safety Control Manager. In the absence of the employees included in RMG, the employees substituting them in accordance with the procedure established by the Company shall participate in the decision-making.

RMG Initiator – manager, engineer of the organizational unit where high-risk works are required.

RMG Minutes – the document authorizing performance of high-risk works the sample form of which is provided in Attachment 1 hereto.

Other terms used herein shall be defined as set forth in general OHS Procedures of the Company.

III. RISK MANAGEMENT GROUP, ITS COMPETENCE, AND DECISION FORMALIZATION PROCEDURE

4. In case of necessity to perform high-risk works, RMG Initiator shall prepare a draft decision of the Risk Management Group in the form of RMG Minutes.

5. RMG Initiator shall enter in the draft RMG Minutes the place and description of the worksite by indicating tag number of the equipment, the product that is or was present therein, and the existing pressure and temperature; the Minutes shall also clearly define the reason for initiating specific RMG decision, shall list all potential work hazards as well as organizational and technical measures proposed, and shall indicate the dates for commencement and completion of the high-risk works.

6. RMG Initiator must attach to the draft RMG Minutes all documents related to the safe execution of high-risk works (EID List, a maintenance process sheet, a sketch, Process Diagram, whereas in case of the works indicated in Attachments 2 and 4 hereto, the results of measured wall thickness of operating pipeline or vessel shall be attached with the conclusion on the possibility of nozzle or clamp welding on the operating pipeline or vessel).

7. RMG Initiator shall draft the RMG Minutes and submit such to RMG Chair and members (or, in case of their absence, to their assigned substitutes) no later than 1 (one) day before the commencement of high-risk works, except for the cases, when the works shall be executed immediately as their delay can cause process interruptions, incident or emergency. In this case RMG Initiator shall be entitled to submit a draft of RMG Minutes to the Company's employees listed herein no later than 1 (one) day before the start of the works, but the high-risk works in any case can only be performed after the decision is made by the RMG to authorize performance of high-risk works.

8. RMG Chair and members shall:

8.1. Familiarize with high-risk works indicated in RMG Minutes as well as with safety measures proposed by RMG Initiator for safe work execution;

8.2. Provide, within the limits of their competence, the comments to RMG Initiator on the planned measures, or indicate additional measures to be included in RMG Minutes by RMG Initiator;

8.3. Not adopt a decision authorizing the performance of high-risk works if not sure that additional pre-planned measures are sufficient for ensuring safe performance of high-risk work. If the event of objections by the Chair or any member of RMG to the content of RMG Minutes, the reason for the objection shall be indicated and notified to other members of RMG and RMG Initiator by e-mail;

8.4. RMG decision authorizing the performance of high-risk works at the conditions indicated in RMG Minutes shall be considered adopted, if approved by RMG Chair and all members of RMG. Decision authorizing performance of high-risk works shall be formalized by placing e-signatures or hand signatures of RMG Chair and RMG members on the RMG Minutes.

9. If RMG Chair or any of RMG members does not agree on the Minutes, performance of high-risk works shall be prohibited.

10. RMG Minutes signed by all members of RMG as well as all necessary documents enclosed shall be registered by RMG Initiator prior to the commencement of the works in S18 Register of Doc-system.

11. High-risk works on public holidays and weekends may be authorized in the event of necessity when delay may result in interruption of operations process, incident or accident. In such case, high-risk works may be performed on the basis of RMG Minutes signed or email-agreed by all RMG members, with such Minutes subsequently registered on the first business day following the public holiday or weekend.

12. RMG Initiator shall submit copies of RMG Minutes to the persons in charge of execution of organizational and technical measures listed therein.

III. REQUIREMENTS FOR HIGH-RISK WORKS

13. **RMG Initiator shall:**

13.1. Verify, prior to the commencement of high-risk works, that all measures indicated in RMG Minutes have been fulfilled and, following the requirements established in OHS Procedures of the Company applicable to hazardous works (maintenance of units, unsealing, hot works and works in confined spaces), issue Work Permit and enter in section 'Other requirements and authorizations' the fulfilment of the measures listed in RMG Minutes;

13.2. Together with the relevant Work Permit, hand over the copy of RMG Minutes to Work Manager;

13.3. Exercise control over performance of high-risk works and ensure compliance with all safety measures set in RMG Minutes;

13.4. Suspend high-risk works if they are performed in unsafe manner or their performance becomes unsafe, or if measures provided for in RMG Minutes are not observed.

14. **Work Manager shall:**

14.1. Prior to the commencement of high-risk work, familiarize with and introduce the workers to (against signature on Work Permit) the high-risk works as well as organizational and technical measures for safe performance of high-risk works as specified in RMG Minutes;

14.2. Ensure that a copy of RMG Minutes is attached to Work Permit and kept at the worksite during the entire performance of high-risk works;

14.3. Maintain a continuous presence at the worksite and ensure observance of all measures set in RMG Minutes;

14.4. Suspend high-risk works if they are performed in unsafe manner or their performance becomes unsafe, or if measures provided for in RMG Minutes are not observed.

15. **Work executors shall:**

15.1. Sign on Work Permit only upon familiarization and full understanding of high-risk works as well as safety measures to be observed;

15.2. Observe the measures set in RMG Minutes during performance of high-risk works;

15.3. Suspend works if such is required by an employee responsible for the control of operating process.

IV. FINAL PROVISIONS

16. Responsibility for periodic review and updating of this Procedure, if needed, shall lie with the Director of Quality, Labour Safety and Environmental Control of the Company.

Prepared by
Control and Prevention Group Manager
Egidijus Luomanas

(Sample form)

RISK MANAGEMENT GROUP
MINUTES

__ _____ 20 ___, No
Juodeikiai Vill., Mažeikiai Distr. Municipality

Chair – Director of Production (full name)
Members:
Initiator – (position, full name);
Deputy Director of Maintenance (full name);
Equipment Technical Supervision and Materials Analysis Manager (full name);
Occupational and Process Safety Control Manager (full name).

DISCUSSED:
Worksite (specify the facility, process unit, tag number of vessel, pipeline, the product that is or was present therein, existing pressure and temperature).
Work description (describe the planned works).
Reason for RMG initiation (justification for not performing the works in line with the standard OHS requirements).
Potential hazards (list any hazards than may occur during the works).

DECIDED:
1. To authorize performance of the aforementioned works after implementing the following measures:

Description	Responsible for implementation (position, full name)

2. Apply the following measures during the work:

Description	Responsible for implementation (position, full name)

Comments, additional measures and persons responsible for execution _____

_____

High-risk work *start on* _____ and *end on* _____
(year, month, day) (year, month, day)

Attachments to Minutes _____
(maintenance log sheet, process diagram, sketch, schedule, etc.)

Initiator _____
(position, full name and signature)

Chair _____
(position, full name and signature)

Members
1. _____
(position, full name and signature)
2. _____
(position, full name and signature)
3. _____
(position, full name and signature)

Minimum OHS requirements for hot tapping into operating pipeline, vessel or other equipment using drilling (milling) machine

1. Method Description

A nozzle is welded to the operating pipeline, vessel or other equipment, a valve is attached to the nozzle, and specific drilling (milling) machine is fixed on the valve for cutting out a cavity of the required diameter in the operating pipeline/vessel and for extraction of a formed patch.

2. Requirements before start of the work:

2.1. Measure pipeline or vessel wall thickness at the nozzle welding points (minimum wall thickness shall be 4.8 mm) and attach the info with measurement results to RMG Minutes.

2.2. Pipeline or vessel wall thickness shall be taken into consideration to select the welding method so to avoid welding throughout the pipeline and its rupture.

2.3. Liquid level in a vessel shall be at least 1 m above the tie-in point, or product circulation shall be ensured.

2.4. Product circulation (flow) in operating pipeline must be ensured; product pressure and temperature in the pipeline must be decreased to the extent permitted by specific process.

3. Requirements applicable to work:

3.1. Drilling (milling) machine must be operated by employees adequately qualified and trained.

3.2. Drilling (milling) machine must be operated in compliance with all the requirements (conditions) specified in the machine operating manual.

3.3. Communication means shall be used during hot works for coordination of actions.

4. Hot tapping is prohibited in the following cases:

4.1. If the equipment wall thickness is below the minimum wall thickness depending on alloy composition, specifications and operation conditions;

4.2. If the equipment is operating in hydrogen medium or medium containing high hydrogen concentration (30% or higher) due to likely leakage through stuffing box and potential metal hydrogen-induced cracking (embrittlement);

4.3. If the equipment contains flammable substance and air or oxygen, due to potential detonation;

4.4. For compressed air lines or air headers, because residual lubricant can ignite;

4.5. For hydrocarbon systems operating in vacuum, due to potential detonation;

4.6. For any vacuum tanks;

4.7. If the equipment contains acids, alkalis, amines or elemental sulfur, because these can cause changes in metal;

4.8. If the equipment contains substances, which are easily degradable or become hazardous if exposed to heat.

Minimum OHS requirements for repair, using special plugs (cameras), of pipelines that are not entirely prepared (not steamed-out)

1. Method Description

Repairs of not steamed-out pipeline using special plugs (cameras) are usually executed in case of necessity to install a valve, tie-in, etc. into a pipeline, and, in view of the considerable length of the pipeline, it is not possible and reasonable to entirely prepare the pipeline (completely drain the product from the line, flush the line with water and steam it out). In this case, a part of the pipeline to be repaired is cut out by means of cold shear and the ends of the pipeline are sealed using special plugs (cameras).

2. Requirements

2.1. Oil products must be removed from the pipeline to the extent possible; pipeline must be isolated by valves, and blinded, if possible.

2.2. A part of the pipeline shall only be cut out by cold shear, i.e. using intrinsically safe pneumatic saw, manual metal saw, or special manual pipe cutter.

2.3. Cutting point shall be prevented from becoming hot, and shall be watered (irrigated) if necessary.

2.4. Pipeline parts that were cut off shall be sealed by special plugs of respective size following manufacturer’s manual.

2.5. Tightness of the plugged pipeline ends shall be checked, and ambient air sampling shall be made next to the plugs.

2.6. During hot works, it shall be ensured that the pressure in the plugged pipeline parts does not exceed 70% of the pressure inside the plug (e.g. by opening air vents, drains, using pressure gauge, etc.).

Minimum OHS requirements for installation of clamps on operating pipelines that contain, as operating fluid, the flammable liquids or gases, steam, or superheated water

1. Requirements for installation of clamps by clamp welding on the pipeline in case of wall thinning:

1.1. Requirements before start of the work:

1.1.1. Measure the pipeline wall thickness at the clamp welding points (minimum wall thickness shall be 4.8 mm) and attach the info with measurement results to RMG Minutes;

1.1.2. Pipeline wall thickness shall be taken into consideration to select the welding method to avoid welding throughout the pipeline and its rupture.

1.2. Requirements applicable to work:

1.2.1. Product circulation (flow) in the pipeline must be ensured; product pressure and temperature in the pipeline must be decreased to the extent permitted by specific process;

1.2.2. Communication means shall be used during works for coordination of actions.

2. Requirements for installation of clamps by clamp attaching on the pipeline and filling the space between the pipeline and clamp with sealing compound in case of pipeline leakage:

2.1. Requirements before start of the work:

2.1.1. Assess potential risks in view of the leakage size, pressure and temperature of the piping medium, and other hazards, decide on the possibility of eliminating the leaks by applying such method;

2.1.2. Method Statement shall be developed for the clamp installation works;

2.1.3. Works shall be performed by adequately trained and qualified employees with sufficient knowledge and experience in elimination of leaks of different products, temperatures and pressure.

2.2. Requirements applicable to work:

2.2.1. To avoid any ignition of vapours or gases of flammable substances released, they must be blown using water steam or nitrogen;

2.2.2. Gas analyzers ensuring continuous monitoring of the selected parameters shall be used by the work executors for audible warning of any deviations from the values set;

2.2.3. In case of the gas analyzer activation, work executors shall use the respiratory protection to protect against release of hazardous vapours or gases;

2.2.4. For elimination of hot product leakages, heat resistant clothing and gloves shall be worn by the work executors;

2.2.5. If the place of leakage may not be sealed, application of the sealing compound shall be discontinued and Work Coordinator notified thereof.