
088 – Offshore Norge Offshore Norge
Recommended guidelines for a
common model for work permits (WPs)

Translated version

FOREWORD

These guidelines are recommended by the Offshore Norge Offshore Norges HSE Forum and the Offshore Norges Operations Committee. They have also been approved by the director general.

The responsible manager at Offshore Norge is the special adviser, operations.

These guidelines have been prepared jointly by Working Together for Safety (SfS), the Norwegian Shipowners Association (NR), the Federation of Norwegian Industries (NI), and the Offshore Norge .

The guidelines are owned and administered by Offshore Norge. Offshore Norge

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1 INTRODUCTION

1.1 Purpose

The purpose of this common model is to establish a common practice for the use of work permits (WPs) on fixed and floating production facilities on the Norwegian continental shelf (NCS).

It covers all activities which require a WP on such facilities, including work in drilling areas.

The safe management and execution of work depends on establishing safety barriers, so that accidents, injuries and damage can be prevented. Such barriers are implemented through an interaction between three main elements:

- the WP system
- the organisation, including expertise, personal responsibility, roles and authority
- operational safety procedures.

This model covers the WP system, including standard role descriptions relating to WPs. Individual facilities may have different organisational models, but must incorporate the roles described in order to ensure that the WP system fulfils its intended functions.

Standard safety requirements for selected work operations are also covered by this document. An operator company may also have special procedures which set stricter requirements for individual operations.

This document is a translation of the original Norwegian.

1.2 Terminology

Safe job analysis (SJA)

An SJA is a systematic and stepwise review of all risk factors, undertaken before a specific work task or operation so that measures can be taken to eliminate or control the identified risk factors during the preparation and execution of the work assignment or operation.

Risk factor

“Risk factor” refers to all aspects which may directly or indirectly influence the risk of loss, injury to personnel or harm to the environment or financial assets.

Identified risk

“Identified risk” refers to a description of the risk associated with the work to be done. What hazards could be generated by the work? What types of accidents might occur and what is the worst that could happen? What forms of energy are in the vicinity, and what risks might these represent?

Mitigated risk

“Mitigated risk” means that measures have been implemented to reduce the identified risk to an acceptable level. Responsibility for implementing these measures must also be clarified.

Work order (WO) – defining a need for work to be done

Generally speaking, many jobs on NCS facilities are registered and generated through WOs. These often form the basis for WPs. Based on the work described in the WO, one or more WPs may be associated with it. A WO is a description of one or more work activities or assignments, and has no particular restrictions with regard to scope or type of work activity.

Work permit (WP)

A WP is a written authorisation to execute defined work at a specific location on a facility under certain conditions and in a safe manner. It allows the work to begin once approval has been given, and when a specific set of operational and safety requirements is fulfilled and this is accepted, documented and authorised.

The WP is an operational safety barrier against undesirable incidents. This system ensures that normal safety barriers are not disabled without compensatory measures being put in place. Similarly, the system specifies requirements for various operational and safety preparations which are a prerequisite for authorising execution of the work.

Using a WPs is also intended to ensure that simultaneous activities on the facility are assessed and coordinated in order to prevent unintended effects and avoid the escalation of undesirable incidents.

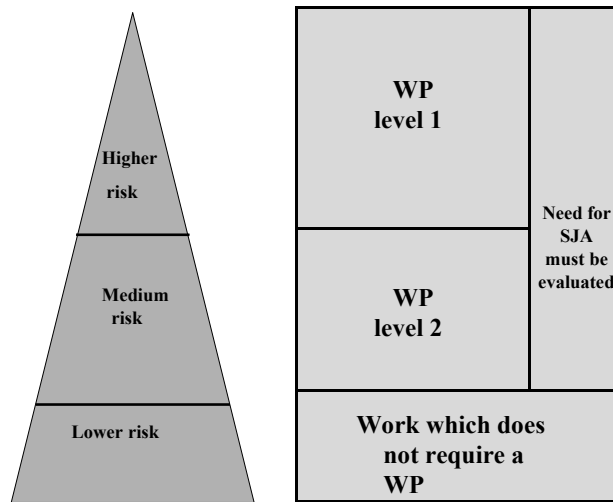
Everyone involved in the planning, approval and execution of work is duty-bound to evaluate whether a WP is needed for the job in question.

WP levels 1 and 2

WPs are divided into two levels on the basis of risk assessments and the need for coordination and authorisation.

WP level 1 is required for work with a higher level of risk and a need for coordination and authorisation at facility level. That includes hot work, entry into confined spaces, shutdown of safety systems and so forth. See chapter 1.2.1.

WP level 2 is used for all other types of work involving a level of risk which needs coordination and authorisation within an area or system. See chapter 1.2.2. The need for an SJA must be assessed at both WP levels. See chapter 1.2.3.

Categorisation of work in the WP system**1.2.1 Work which requires a WP level 1****Hot work class A**

Work with equipment and tools which constitute an effective ignition source and which, used in a normal manner, may ignite an explosive atmosphere and/or solid materials or liquids. In other words, the tool/equipment gives off a high level of energy in the form of sparks, a naked flame or an electric arc, and/or has a surface temperature which exceeds the ignition temperature for the medium which could be exposed.

Ignition sources include:

- welding
- hot tapping of pipes and containers under pressure
- ordinary grinding/cutting discs
- heat shrinkage with a naked flame
- preheating with a naked flame
- annealing
- burning.

Hot work class B in classified areas

Work with equipment which constitutes a potential ignition source and which, in the event of a fault or malfunction, may constitute an effective ignition source capable of igniting an explosive atmosphere. In other words, the equipment does not have a sufficiently high surface temperature and/or does not involve sparks, a naked flame or electric arc, or release energy in any other way which is sufficient to ignite an explosive atmosphere or flammable liquid in normal use. When used incorrectly or in the event of a fault or malfunction, however, it may constitute an effective ignition source.

Ignition sources include:

- heat shrinking with an electrical heat gun
- sandblasting/needle picking
- electrical isolation (megger) testing
- soldering equipment

- all electrical or battery-operated equipment/apparatus/instruments which are not Ex-protected for the areas where they are used
- rotating steel brushes.

Entry

Complete or partial entry into confined spaces or areas which normally lack natural or mechanical ventilation, such as tanks, pipes, chain lockers and exhaust ducts.

Isolation of a safety system

Covers work which involves the isolation, testing and bypassing of safety systems.

Safety systems include, but are not limited to:

- emergency shutdown
- fire-fighting
- blowdown
- detection
- alarm
- emergency power and non-interruptible power supplies
- evacuation equipment.

For a detailed overview of safety systems, see the provisions for the specific facility.

Work on hydrocarbon systems

Work on piping systems, tanks and associated components which may pose a risk of releasing produced oil/gas/condensate.

Other work on hydrocarbon systems can be executed with a WP level 2.

Work defined as regular routines covered by an existing procedure can be carried out with a WP level 2.

Pressure testing

Testing newly installed or modified tanks/piping systems/Xmas trees in accordance with an approved pressure-testing procedure, and testing above working and/or design pressure.

Work over the sea

“Work over the sea” refers to jobs conducted outside permanent railings where a risk exists of personnel falling into the sea. The use of rope access (RA) is not defined as work over the sea when it accords with *NS 9600 (Soft Standard): Arbeid i tau*. See the section below on other activities/critical operations requiring a WP level 1.

Work from a hydraulic basket in a moonpool and on approved scaffolding is not defined as work over the sea when an additional barrier is used, such as the following:

- fall arrest equipment
- man-riding belt
- net
- scaffolding with extra-high railings erected in accordance with class 3 and certified as class 2, which must be recertified once a week or after external influences such as wind and weather.

Work with hazardous chemicals

Work operations involving chemical products classified as chemical substances and mixtures of substances which may be hazardous to health or the environment, or pose a risk of fire or explosion.

Examples of work with hazardous chemicals include the following.

Fire/explosion hazard: handling/use of flammable chemicals where their volume and/or proximity to ignition sources poses an enhanced risk of ignition.

Environmental hazard: work which poses an increased risk of discharging chemicals to the sea, where the volume to be used exceeds one m³.

Health hazard: heating of surface-treated materials which may result in the thermal decomposition of paint, for example. Work on piping systems, tanks and associated components which may pose a risk of releasing chemical products. Grinding, sandblasting or cutting of structures or work generating dust or chemical pollution which is harmful to health and which other personnel may be exposed to.

Work with radioactive substances

Work with radioactive substances/isotopes, including work on systems with deposition of radioactive scale.

Well operations/interventions

This includes such operations as:

- wireline operations/production logging
- perforation/well flow over side burner
- well stimulation
- coiled tubing or snubbing operations
- setting plugs or removing Xmas trees.

Work with explosives

Preparation, arming and control of explosives.

Critical lifting operations

Critical lifting operations are ones which may require special safety precautions or particular attention and communication to take account of interfaces with adjacent activities. They include, but are not limited to:

- lifting over critical areas/process equipment/well equipment
- personnel transport using lifting devices, unless an different approval scheme has been established by management
- tandem lifts where the weight of the load exceeds the maximum lifting capacity of one of the lifting devices
- overload-testing of lifting devices with a safe working load (SWL) over 10 tonnes
- lifting of special loads such as structures, mobile cranes and so forth
- heavy lifts not regarded as routine operations
- subsea operations using an offshore crane.

Other activities/critical operations requiring a WP level 1

The operator companies may define other operations or critical activities requiring a WP level 1. Examples of such activities include:

- personnel diving
- ROV deployment under or in the immediate vicinity of the facility
- moving a derrick
- work on live electrical equipment
- use of rope access, see NS-9600 (Soft standard)
- painting with spray guns.

1.2.2 Work which requires a WP level 2

A WP level 2 is used for work which, owing to the risk involved, requires coordination and clearance in a specific area or system.

A WP level 2 normally includes, but is not limited to:

- mechanical work
- work on electrical equipment
- work on automation, data processing and telecommunications systems
- erecting scaffolding
- painting using brushes and rollers, regardless of hazard category
- insulation work,

1.2.3 Identifying the need for an SJA

Assessing whether an SJA is required goes through several phases, from planning the job to actual execution. Everyone involved in the planning, approval and execution of work and WPs is duty-bound to assess the need for an SJA. See Offshore Norge guidelines 090.

An SJA is required when risk factors are present or may arise, and when these factors are not sufficiently identified and controlled through applicable procedures or an approved WP.

Typical factors which must be given emphasis in an assessment include:

- whether the work is described in procedures or routines, or requires a departure from these
- whether all risk factors have been identified and controlled through the WP
- whether this type of work has previously given rise to incidents/accidents
- whether the work is risky, complex or involves several disciplines/departments
- whether new types of equipment or methods not covered by existing
- procedures or routines are to be used
- whether the personnel involved have experience with the relevant work.

1.2.4 Work which does not require a WP

A number of jobs may be done without a WP. These will mainly be normal, routine activities in production, drilling, logistics or maritime operations, where the work is done in accordance with applicable procedures and requirements.

This will also apply to work activities which pose a lower level of risk and have no need for authorisation or coordination (see section 3.5), and where an SJA are not required.

Each operator company defines the specific limits for work which can be executed without a WP. Examples of such activities include:

- jobs in a workshop approved for these
- general work/domestic occupations in the living quarters
- inspection activities which do not require physical interaction with the equipment inspected
- cleaning and tidying which do not utilise equipment or chemicals requiring a WP
- using chemicals with a lower level of risk and no need for coordination.

1.2.5 Organisation and roles for dealing with WPs

Each facility has its own organisational structure with associated functions and job titles. Since it builds on standard roles for handling WPs, the model described here has been rendered independent of individual organisational descriptions and job titles. No position is thereby taken on the specific organisation of a facility, but it is assumed that the roles specified here are in fact taken care of within each organisation.

The following roles are involved in dealing with WPs.

Role	Definition
Applicant	The person who plans the work and applies for a WP on behalf of those who are to execute it.
Approver/person responsible for area/operations Supervisor	The management function responsible for the area or system to be worked on, and who will therefore be involved in and approve the work. If area and operational responsibilities are divided between two positions, both must participate in exercising this role.
HSE function	An HSE function which checks the quality of the WP application during planning and approval.
Overall approver/OIM	The offshore installation manager, who bears ultimate responsibility for the work being done in accordance with the WP system – including responsibility for coordinating simultaneous activities.
Area technician	The skilled worker with operational responsibility for a specific plant and/or area. If this role is divided between two positions, both must participate in exercising it for a given WP.
Executing skilled worker	The skilled worker who executes the physical and specific work covered by the WP.
CCR technician	A control room function with a role in the shutdown of safety functions and the monitoring, control and authorisation of WPs from the location defined as the central control room in this context.
Other positions	Other functions involved in the handling of WPs pursuant to the individual operator company's guidelines.

1.2.6 Special terms related to hot work

Classified area

Areas defined as zones 0, 1 or 2 in the area classification plan for the individual facility.

Unclassified area

An area defined as unclassified in the area classification plan for the individual facility.

Approved workshop

An unclassified area defined as a workshop and approved for this purpose in accordance with the individual operator company's guidelines.

Normal operation

All production states following the introduction of hydrocarbons to the plant.

Production shutdown with depressurised process plant

A state where all production on the facility has been shut down. Barriers against wells and incoming/outgoing hydrocarbon pipelines have been established. Process systems have been depressurised.

1.3 References

Section 30 of the activities regulations in the HSE regulations for the Norwegian petroleum sector.

1.4 Publication and follow-up

This document is issued and maintained by Offshore Norge. Further development and upgrading will be handled by a permanent group for experience transfer, learning lessons and improvement, with representatives from operator and contracting companies. Appropriate mechanisms will be utilised to ensure efficient handling of feedback and proposals from users.

Exceptions will be handled in accordance with the guidelines of the individual operator company. Such exceptions will also be treated as input in connection with future updating and improvement.

2 WORK PERMITS – BASIC PRINCIPLES AND REQUIREMENTS

2.1 The purpose of using WPs

The main objective of the WP system is to ensure that all risk factors associated with a work operation are taken into account in planning, approving, preparing, executing and completing the work. A WP forms a basis for:

- preventing undesirable incidents and controlling risk
- documenting safety measures and the correct approvals
- communicating information about work activities to all personnel affected
- handling and controlling interfaces between activities on the facility.

2.2 Functional requirements of the WP system

The WP system is intended to ensure that the following functions are taken care of:

- clarify which types of work require a WP
- ensure that such work is approved in accordance with the responsibilities and regulatory provisions which apply on the facility
- identify precisely the work to be done, the risk involved, restrictions relating to execution of the work, and the period when the work may be executed
- specify necessary safety measures and precautions, including isolation from potential hazards such as hazardous substances or energy sources
- inform the person responsible for a facility or area, and others who may be affected by the work
- maintain a documented overview, control and management of the work at all times
- internal control
- rules on interruptions to the work before it is completed
- coordination of simultaneous activities
- formal handover and exchange of information when a WP covers a period longer than one shift, or when personnel who have signed the WP change during execution of the work
- formal handback and ensuring that the plant is in a safe condition and ready for reinstatement when handed back after completion of the work, including good order and tidiness at the work site.

2.3 Fundamental principles

2.3.1 Internal control

The WP system is based on the internal control principle. This means that several independent parties are involved in the approval, control, coordination and management of activities.

The WP system's principles for the control of work activities and risk are based on the requirement that one group holds the area/operational responsibility and another is responsible for executing the work. In principle, this means there are two specific independent parties during the operational and safety preparations before starting the work, and during its execution and completion. Both groups or parties have specific duties and responsibilities during the WP process.

One party is defined as the “owner” and is the approver/person with area/operations responsibility for the equipment and plant. The other is defined as the “supplier” and the executing skilled worker responsible for the required work to be carried out on the equipment or plant. In this way, the WP can be regarded as a contract between two different parties.

In small organisations, where the approver/person with area/operations responsibility (owner) and the person with executing responsibility (supplier) are in the same group, active efforts must be made to ensure that the roles related to authorising WPs are consciously implemented so that the intention of exercising internal control is met.

2.3.2 Area/operational responsibility

A person in charge of an area/operation is responsible for possessing the system/plant knowledge and technical expertise needed to run systems and/or areas in operation. The most important duties of and expectations for such people are that they:

- maintain a complete overview of and control over barriers, systems and the area(s) in operation, and ongoing work activities
- administer all required isolation of energy sources, mechanical or electrical
- implement safety preparations relating to the system or area in operation before starting the work
- ensure that it is safe to execute the planned work at the work site before starting, carry out thorough point checks at the work site with the executing skilled worker, and that they identify and mitigate risk
- reinstate systems and remove isolations when the work is completed, and verify that returning the equipment to normal operation is safe
- maintain control of activities interfacing with systems and area(s) in operation.

2.3.3 Executing responsibility

Those executing the work must have the technical expertise required to do it. The most important duties of and expectations for the executing workers are that they:

- possess the necessary technical expertise to do the specified work
- make the safety preparations associated with the work
- ensure that preparations to do the work are made and that appropriate tools are in place
- ensure, in cooperation with the people responsible for the area/operations, that risk is identified and mitigated so that it is safe to execute the planned work at the work site
- carry out the work in accordance with the requirements given in the WP and applicable procedures
- keep the work site tidy during execution, and leave it clean and tidy when the job is completed.

2.3.4 Coordination of WPs and simultaneous activities

The management must ensure that routines are in place on the facility which ensure that WPs and simultaneous activities are coordinated, that interfaces are taken care of, and that incidents arising from an operation do not escalate because of other

simultaneous operations. WPs must be dealt with in the daily coordination meeting on the facility.

The approver/supervisor for the area/operations or the area technician may assume responsibility for coordination and interfaces with a WP level 2, in accordance with the guidelines at the individual operator company.

2.4 Requirements for planning and preparation

2.4.1 Application process

Preparing the WP

The unit responsible for executing the work prepares the WP.

Process for administrative consideration

The individual facility must have a process which meets the requirements for ensuring an administrative consideration of WPs with the necessary level of quality.

Emphasising dialogue and collaboration at the planning stage

Management must ensure that the local application process ensures the necessary contact and dialogue between the applicant and the approver/person responsible for the area/operations during the planning phase of the work. This may include such activities as joint reviews of the work and assessments at the planned work site when the nature of the work necessitates this.

2.4.2 Validity, completion of and changes to WPs

Agreement between work description and WP

The work described in the WP must accord with the WO or other existing job packages/ work descriptions where these exist.

Completeness/accuracy

The WP is invalid if it has not been correctly and completely filled out or lacks required approvals.

Changes must not be made

A completed and approved WP must not be altered. If changes are required, the WP must be processed anew. Exemptions apply in cases where a need to tighten operational and safety preparations is identified.

2.4.3 Application period, duration and extension

Application period

A WP application must be submitted for planned work assignments to be carried out during the next night and day shifts.

Duration

A WP is normally valid for up to 12 hours, and expires at the end of the day or night shift.

Particular considerations for the duration of a WP level 2

The operator company may implement a scheme which allows a WP level 2 to be approved for a period of up to 14 days and a maximum of seven (7) authorisations.

That saves having to print out and approve a new original every day. Otherwise, the same requirements apply for maintaining an overview, control, authorisation and completing the work on a daily basis. If the company chooses to implement such a scheme, the special form for WP level 2 in appendix C4 is used.

Extension

A WP may be extended for up to a maximum of four hours if the work continues with the same team.

Long-term isolation of safety systems

An overview and checks of safety systems isolated/deactivated for a long period must be undertaken in accordance with the individual operator company's routines.

2.4.4 Restrictions on the scope of a WP

Should a WP cover more than one activity/operation, steps must be taken to ensure that no misunderstandings exist about which parts of the work have been authorised.

2.4.5 Restrictions on executing a WP

Work which carries the risk of releasing hydrocarbons

Work which might result in the release of hydrocarbons is not permitted until all WPs for hot work class A and change permits for areas which could be exposed are revoked. Revoking permits for hot work class B must be assessed in each case.

Restrictions owing to simultaneous activities/drilling and production

Each facility will have special procedures for simultaneous activities.

2.4.6 Preparing the WP, planning operational and safety preparations

Applicant

The applicant will prepare the work description, identify risks and suggest necessary operational and safety preparations/measures for the work covered by the application.

Approver/supervisor for the area/operations

The approver/supervisor for the area/operations will review the proposed measures and, where necessary, specify other required measures.

Cooperation and dialogue at the planning stage

A close dialogue between applicant and approver/supervisor for the area/operations will often be necessary at the planning stage. Both parties have a responsibility to consider whether a joint review and assessment is needed at the planned work site as a part of the planning process.

Use of an SJA

Assessing whether an SJA is needed runs through several phases, from planning the job until it is actually executed. Everyone involved in planning, approving and executing the work and the WP is duty-bound to assess the need for an SJA.

2.5 Approval requirements

WP level 1	WP level 2
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<p>A WP level 1 must be approved by the approver/supervisor for the area/operations, checked/quality-assured by an HSE function on the facility when such a function exists, and approved by the overall approver/OIM.</p>	<p>As a minimum, a WP level 2 should be approved by the approver/supervisor for the area/operations.</p>
<p>WP level 1s must be discussed at the daily meeting on the facility in order to coordinate WPs and simultaneous activities.</p>	<p>The approver/supervisor of the area/operations must ensure that interfaces with other areas, activities and work operations are assessed as a part of this approval process.</p>

2.6 Preparations and checks required before work starts

2.6.1 Preparations before work starts

Area technician

Before the area technician authorises execution of the work, necessary operational and safety preparations, including identification of risks and measures, must have been completed as required by the WP and in accordance with the applicable procedure(s).

Executing skilled worker

The executing skilled worker will make their required operational and safety preparations and deal with the identified risks in accordance with the WP and the applicable procedure(s) for the relevant work activity.

2.6.2 Checking and authorising the work at the work site and in the CCR

The WP process must include checks before starting the work to ensure that:

- the work site is secured
- the necessary deactivations and isolations of energy sources are done
- the work does not pose a safety conflict with any other work planned or being executed
- those affected by the work have been informed of possible effects on their own work
- appropriate communication and coordination meetings have been held and important decisions documented.

Executing skilled worker

The executing skilled worker will make the checks described above and sign the WP to confirm that instructions on operational and safety preparations and identified risks are understood and have been/will be implemented/taken care of.

Area technician

The area technician will check that the WP has been properly filled out and carries the necessary approval signatures, and assess whether the work can start in relation to other activities in the area. By signing the WP, the area technician confirms that the work site has been readied in accordance with instructions and identified risks.

CCR technician

The CCR technician will assess whether the work can start in relation to other activities on the facility. By signing the WP or another documented arrangement, they confirm that the work has been cleared with the CCR.

Responsibility for maintaining an overview, checks and authorisation of a WP level 2 may be delegated to the approver/supervisor for the area/operations or the area technician in accordance with the guidelines in the individual operator company.

2.6.3 Isolation of safety systems and isolation/locking of electrical equipment

Isolation of safety systems and isolation/locking of electrical equipment must be registered on the WP form or the isolation document used in the operator company.

2.7 Requirements when executing the work

2.7.1 Starting the work

The work may start when the necessary approvals have been given and the work site has been checked and cleared. The approved WP must be kept at the work site and reviewed by the personnel involved before starting the work.

2.7.2 Overview and checks during the work

CCR

An overview of ongoing work which requires a WP level 1 must be kept in the CCR or the location at which this function is performed for WPs. Responsibility for maintaining an overview of WP level 2s may be delegated to the approver/supervisor for the area/operations or the area technician.

Planned and ongoing activities must be reviewed at shift changes, including WPs which have been extended.

Area technician

The skilled worker responsible for the plant and area(s) must ensure the necessary checks are made during the work, when it is halted or suspended, and when it resumes.

Planned and ongoing activities must be reviewed at shift changes, including WPs which have been extended.

Executing skilled worker

The executing skilled worker is duty-bound to contact the area technician concerning halts to and resumption of the work.

2.7.3 Cancelling or suspending a WP

A WP may be cancelled or suspended at any time in response to circumstances on the facility or at the work site. The work must be halted in the event of:

- an emergency alarm on the facility
- breach(es) of the preconditions for the WP
- a developing hazard or operational conditions which require this.

The work may be resumed when this is announced by the CCR over the PA system, or when authorised by the area technician.

The WP is rendered invalid if:

- the work has not started within an hour of being authorised and of a gas test required before work starts being carried out
- the scope of the work has changed and no longer accords with the description in the WP.

2.8 Requirements when completing the work

2.8.1 Final check of the work and reactivation of safety systems

Executing skilled worker

The executing skilled worker will conduct a final check at the work site and sign the WP to confirm that the work has been completed and that the work site is tidied, cleaned and secured.

Area technician

The area technician will conduct a final check at the work site when the job has been completed to ensure that:

- the work has been executed in a satisfactory manner
- all isolations and disconnections have been removed, including the reactivation of possible safety systems isolated locally by the area technician before or during the work, and that this is noted on the WP form
- the work site and systems have been returned to operation and reactivated in a safe condition and that the work site has been tidied up and cleaned
- a final inspection has been conducted with the executing skilled worker, acceptance of the work site has been confirmed by signing the WP, and removal of tags/locks has been determined and the equipment is ready for operation.

CCR technician

When the final section of the WP has been signed by the area technician and the executing skilled worker, the CCR technician will reactivate any isolated safety functions where relevant and register this on the WP form. By signing the WP or using another documented arrangement, the CCR technician will confirm that the work has been cleared with the CCR.

Responsibility for maintaining an overview, checks and authorisation of a WP level 2 may be delegated to the approver/supervisor for the area/operations or the area technician in accordance with the guidelines of the individual operator company.

2.8.2 WP level 2 approved for several days

The operator company may decide that a WP level 2 can be approved for up to 14 days and a maximum of seven (7) authorisations. If this arrangement is used, the WP level 2 form in appendix C4 applies. The signature table in the form is used for daily authorisation/completion of the work, and provides space to authorise/complete the same WP over several days, eliminating the need to issue and approve with the same procedures as for a WP level 2 lasting for just one shift.

2.9 Experience transfer, learning lessons and improvement

Management is responsible for establishing routines which contribute to experience transfer, learning lessons and improvement. That includes periodic verification of how the WP system is practised on the facility.

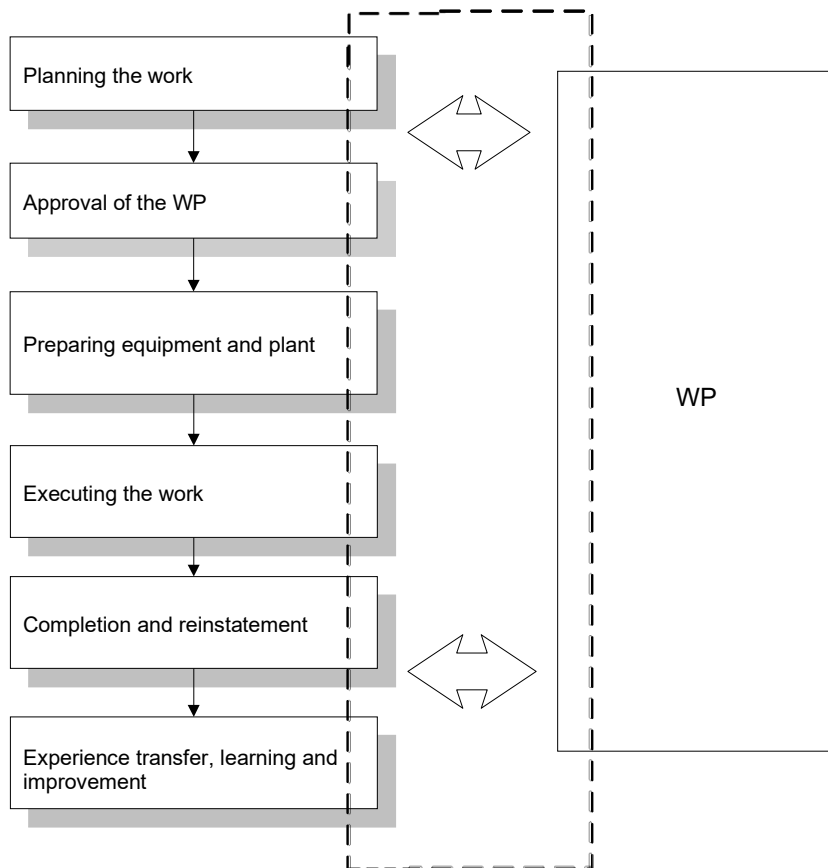
WPs are filed in accordance with the individual operator company's guidelines.

2.10 Requirements for personnel training

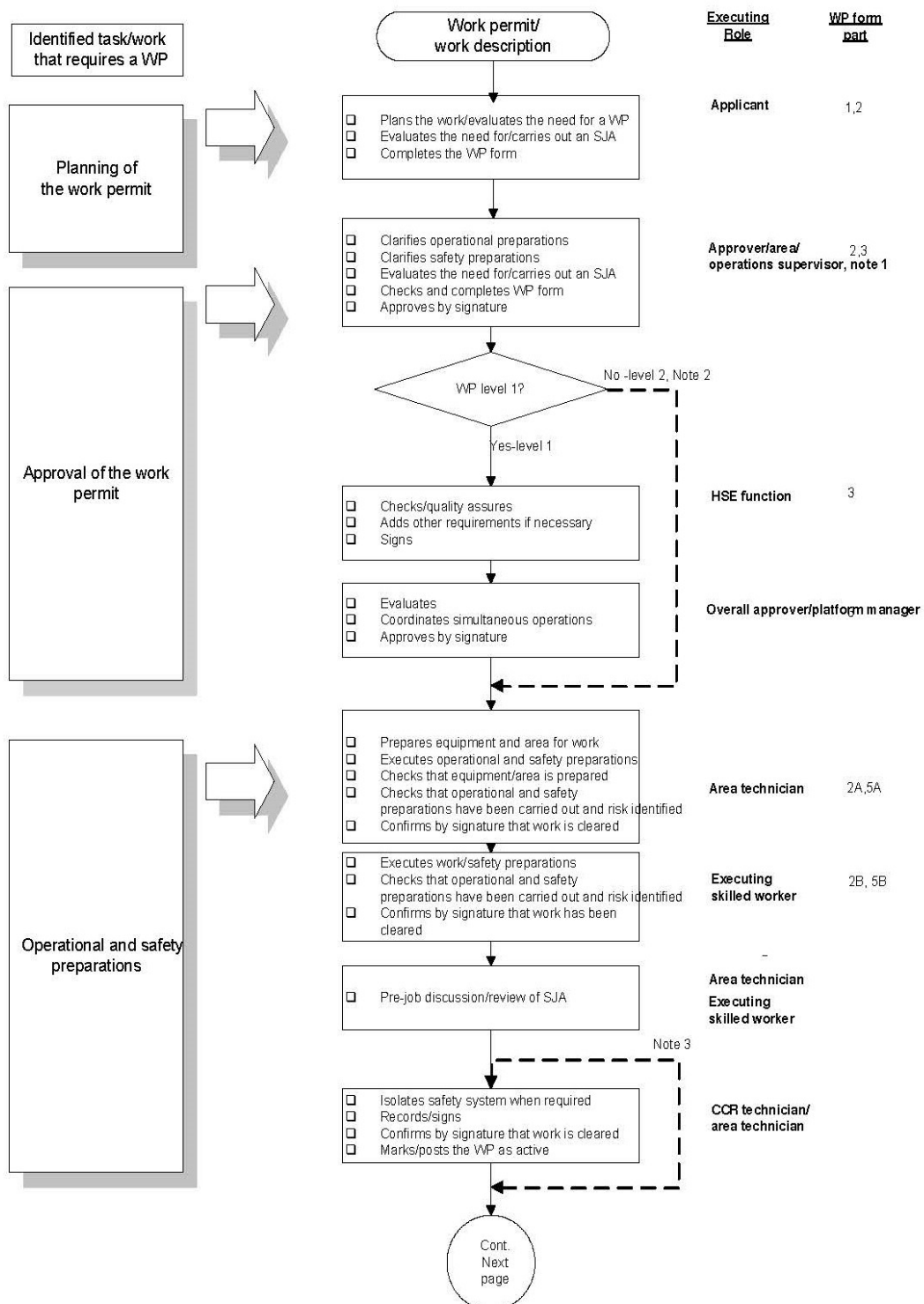
Management is responsible for ensuring that all personnel who issue or use WPs receive the necessary training in handling WPs and in applying the WP procedure and the operational safety procedures related to work operations. That includes completion of the Working Together for Safety (SfS) interactive e-learning course on WPs, training FES guards for fire, entry and safety when working over the sea, and training on the use of gas detectors and other safety and emergency equipment.

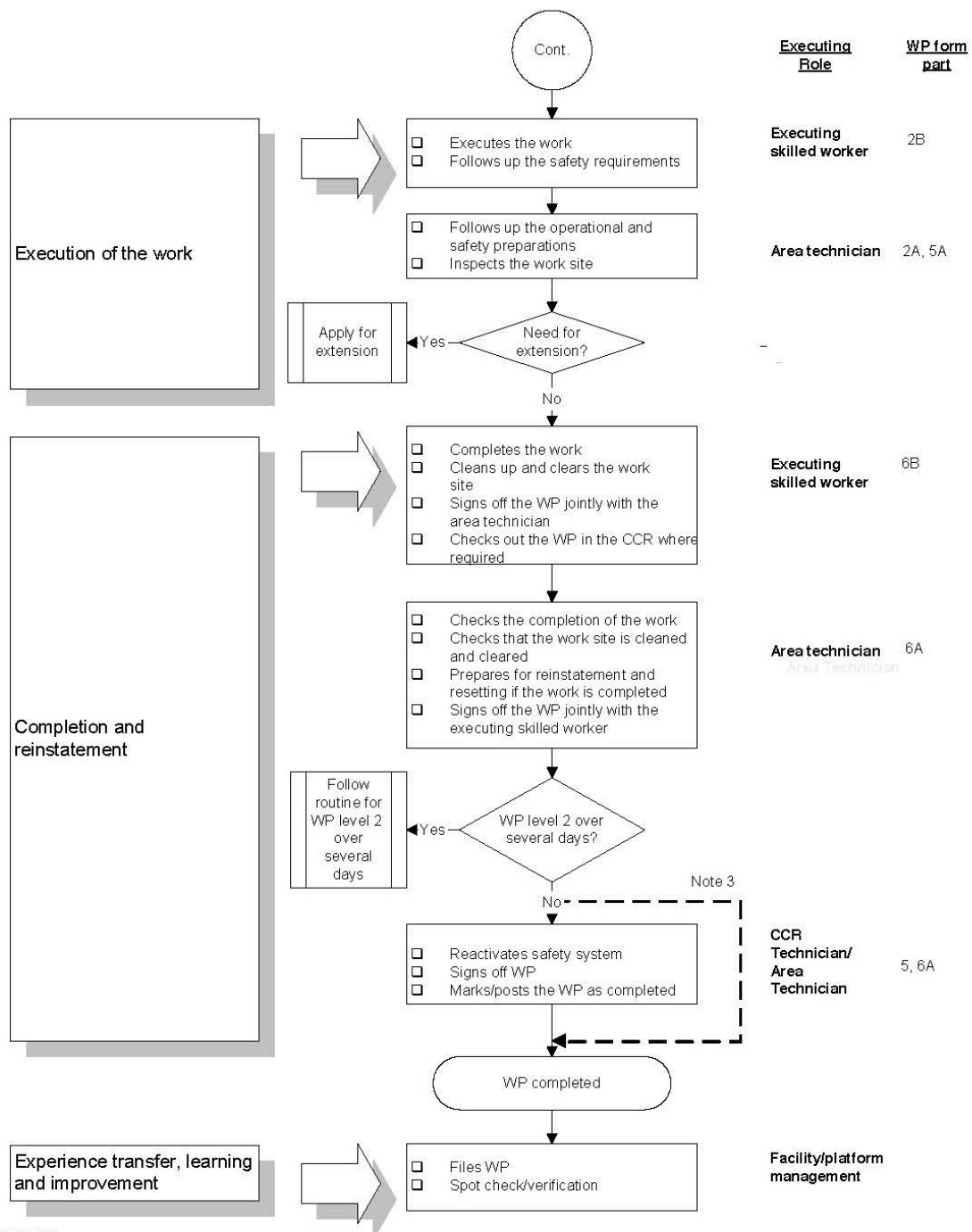
3 WORK PROCESS FOR PLANNING AND EXECUTION OF WPS

WPs are planned and executed in accordance with the main steps shown in the flow diagram below.



A detailed workflow with roles and cross-references to the WP form is shown on the following pages.





NOTES

(1) In cases where the equipment/plant to be worked on belongs to a different area and operations responsible, both parties shall sign the WP in conjunction with approval and clearance of the work.

(2) WP Level 2 may be approved by the approver/area/operations supervisor

(3) All WPs shall usually be posted and cleared/signed by the CCR. However, the responsibility for maintaining an overview, control and clearance of level 2 WPs may be delegated to the approver/area/operations supervisor or area operator in accordance with the guidelines given by the individual operating company.

4 STANDARD SAFETY REQUIREMENTS FOR WP LEVEL 1

4.1 Introduction

The purpose of this chapter is to contribute to a common practice for operational and safety preparations for a WP level 1. These matrices represent a compilation and systematisation of the requirements practised in the industry today, and aim to represent good practice. The individual operator company can set stricter requirements if necessary.

4.2 Matrices setting standard safety requirements for WPs

These matrices have been compiled to provide a concise overview of:

- preconditions and restrictions for executing a given type of work
- necessary operational and safety preparations required.

The intention is that the matrices will be used as checklists for different types of WPs, and thereby help to support the introduction of a common model for WPs on the NCS.

Should several types of work be involved in the same WP, all the relevant matrices must be taken into account.

Checklists are also included for fire, entry and safety (FES) guards, covering:

- duties of the fire guard
- duties of the safety guard during entry
- duties of the safety guard during work over the sea.

10. Procedures/checklists for the relevant operation must be known.	x	x	x
11. Special personal protective equipment (PPE) for the operation noted on the WP in line with the work involved.	x	x	x

4.2.2 Hot work class B	Requires WP level 1 in classified areas
<p>Work which constitutes a potential ignition source and which is not defined as hot work class A.</p> <p>Ignition sources include:</p> <ul style="list-style-type: none"> • heat shrinking with an electrical heat gun • sandblasting, needle picking • electrical hand tools • electrical isolation (megger) testing • soldering equipment • all electrical or battery-operated equipment/apparatus/instruments not Ex-protected in accordance with the classification of the areas in which they will be used • rotating steel brushes. 	
<p>Preconditions and restrictions Restrictions associated with drilling and well operations will apply, see the procedures for simultaneous drilling and production at the individual operator company.</p> <p>Comments In unclassified areas, this type of work can be performed with a WP level 2.</p>	
Operational and safety preparations by area technician	
1. Prevent release of oil/gas in the area. Make careful assessments of potential leak sources in the vicinity.	
2. Work site inspection: before and during the work.	
3. Gas measurement before work starts (in classified areas).	
4. All safety systems in and around the area must be operative or compensatory measures implemented.	
Operational and safety preparations by executing skilled worker	
1. Gas measurement at the work site: continuous (in classified areas) so that the work can be halted if gas is detected.	
2. Fire extinguisher/prevention measures: use a suitable extinguisher, assess whether flammable materials need to be removed or covered in line with the work equipment being used.	
3. Procedures/checklist for the relevant operation must be known.	
4. Special PPE for the operation noted on the WP in line with the work involved.	

4.2.3 Entry	Requires WP level 1
Full or partial entry into confined spaces or areas not normally ventilated naturally or mechanically, such as tanks, pipes, chain lockers and exhaust ducts.	
Preconditions and restrictions	
<ol style="list-style-type: none"> 1. All pipelines connected to the container must be isolated with a spade blind. In special cases, other isolation methods can be accepted if the barrier is checked continually during all phases of the work. If such an alternative is used, it must be specially described and covered in the individual operator company's work procedures. 2. The container/confined space must not be entered until the area technician has ensured that this is safe and has given permission to start the work. 3. A WP for entry is only valid for entry and visual inspection. A separate WP must be used for other work to be done. 4. Documentation must be available as a minimum for the following: <ul style="list-style-type: none"> • Isolations/valve and blind lists • marked-up drawings. 	
This documentation must be linked to the WP and stored as specified in the company's guidelines.	
Breathing air equipment must accord with NS-EN 12021, the Norwegian Labour Inspection Authority's regulations on action and limit values, and the producer responsibility regulations.	
Operational and safety preparations by the area technician	
1. An SJA must always be carried out before the work starts.	
2. Equipment must be depressurised, drained/emptied, and cleaned/rendered gas-free.	
3. Equipment must be isolated and blinded from other parts of the plant, including electrical and mechanical isolation.	
4. Equipment must be ventilated and vented. Extra ventilation must be used as required.	
5. Measures against radioactive radiation: if radioactive scale is suspected inside containers or pipes, radioactivity must be measured before the work continues. Permanently installed radioactive sources must be closed/shielded.	
6. Work site inspection: before and during the work. Intervals for new gas tests must be defined on the WP.	
7. Other: if iron sulphide is expected, the tank/container must be washed with water. Iron sulphide deposits should be kept moist and removed.	
8. Gas measurements: <ul style="list-style-type: none"> • gas measurements, including an oxygen test and other relevant industrial hygiene measurements, must be conducted before entry • results of the measurements must be noted on the WP • if the work has not started within one hour of entry being authorised, new gas tests must be performed and a new authorisation obtained. • all flammable or toxic substances must be reduced to a concentration harmless to personnel entering without respiratory equipment. • the oxygen level must be 20.9 per cent. 	
Operational and safety preparations by executing skilled worker	
1. An SJA must always be carried out before the work.	
2. Gas measurements at the work site: continuous for gas/oxygen, so that work can be halted if gas/lack of oxygen are detected.	
3. Verify mechanical isolation.	
4. Electrical isolation/locking as necessary.	
5. Continuous guard/radio communication, see 4.2.13 Duties of the safety guard.	
6. Barriers/warning signs.	
7. Chemical data sheet or action card read and available.	
8. Procedures/checklists for the operation must be known.	
9. Special PPE for the operation must be noted on the WP in line with the work involved. See also 4.2.13. Duties of the safety guard.	

10. Other requirements/preparations before entry:

- all lighting in the container must be an Ex-proof type when entering a possible hydrocarbon atmosphere.
- all equipment used to ventilate containers must be Ex-proof, and preferably pneumatically-operated.
- electricity may not be used in tanks where an explosive atmosphere could be present. If electrical lighting/equipment is used (after the tank/container has been cleaned and no risk of explosion exists), a suitable earth fault protection relay must be used.
- escape routes must be identified and known to personnel involved.
- gas bottles must not be brought inside tanks/containers. Gas hoses must be removed from the tank/container and bottles closed whenever the work is halted.
- special caution must be exercised when entering tanks/spaces which have been rendered inert.

4.2.4 Isolation of the safety system	Requires WP level 1
<p>Isolation or testing of as well as work on and bypassing safety systems. Safety systems include but are not limited to:</p> <ul style="list-style-type: none"> • emergency shutdown • blowdown • fire-fighting • detection • alarm • emergency power and uninterruptible power supplies • means of evacuation • PA systems. <p>For a detailed overview of safety systems, see the provisions for the specific facility.</p>	
<p>Preconditions and restrictions</p> <ol style="list-style-type: none"> 1. Isolating safety-system functions must always be assessed on the basis of the consequences and risks posed by the missing function. It must always be assessed in relation to other activities on the facility, including drilling and well operations, hot work and other work on safety systems. Compensatory measures must be implemented. 2. The person responsible for areas/systems affected by the safety-system isolation must be informed of the work in advance. If the isolation affects more than one's own facility, the relevant facilities must be contacted for coordination. 3. Work must be planned with the smallest possible scope of and shortest possible duration for isolations. Isolations and bypassings must be reactivated as soon as possible after the work is completed. 4. An overview of isolated safety systems must be available on the facility at all times. <p>Comments</p> <ol style="list-style-type: none"> 1. Routine testing for preventive maintenance of fire and gas detection, emergency shutdown and PA systems, and testing of emergency generators, are not regarded as isolation of a safety system when performed in accordance with an established programme where dedicated personnel are present in the field and in the CCR. Such work can be done with a WP level 2. 2. Brief isolation of detectors in the fire and gas system during routine draining/bleed-off by the area technician can be done without a WP. 3. Brief isolation of single devices in the process shutdown system by the CCR technician in the event of special operational requirements, such as the start-up/run-down of systems and the draining of level switches, may be done without a WP. 	
<p>Operational and safety preparations by area technician</p>	
<ol style="list-style-type: none"> 1. Safety tags/locking. 2. Isolation of safety system: compensatory measures must be implemented to ensure that sufficient barriers are in place at all times. Examples of such measures include deploying a safety guard in the area, installing additional fire-fighting and detection equipment, using additional communication equipment, and using alternative evacuation/rescue equipment. Isolation and reactivation must be logged, see the guidelines of the individual operator company. 	
<p>Operational and safety preparations by executing skilled worker</p>	
<ol style="list-style-type: none"> 1. Continuous guard/radio communication must be assessed as a compensatory measure. 2. Barriers/warning signs must be assessed in each case. 3. Coordination with the CCR/area technician. 4. Procedures/checklists for the operation must be known. 	

4.2.5 Work on a hydrocarbon system	Requires WP level 1
<p>Work on piping systems, tanks and associated components which pose a risk of releasing produced oil/gas/condensate.</p> <p>Other work on hydrocarbon systems may be carried out with a WP level 2.</p> <p>Work defined as fixed routines where procedures are available can be carried out with a WP level 2.</p>	
<p>Preconditions and restrictions</p> <p>Documentation must be available which, as a minimum, covers the following:</p> <ul style="list-style-type: none"> • isolation/valve and blind lists • marked-up drawings. <p>This documentation must be linked to the WP and be stored as specified the individual operator company's guidelines.</p>	
Operational and safety preparations by area technician	
1. Depressurising the equipment.	
2. Draining/emptying if the piping system/equipment is to be opened.	
3. Cleaning/rendering gas-free to be assessed in relation to the work to be done.	
4. The equipment must be isolated/blinded from other parts of the plant in accordance with the individual operator company's guidelines if the piping system/equipment is to be opened.	
5. Safety tags/locking.	
6. Other: checks for possible leaks must be made, and affected equipment checked for H ₂ S and benzene where these are likely to be present.	
Operational and safety preparations by executing skilled worker	
1. Verify mechanical isolation.	
2. Assess electrical isolation/locking.	
3. Coordination with CCR/area technician is assessed in relation to the work to be done.	
4. Chemical data sheet or action card read and available.	
5. Procedures/checklists for the relevant operation must be known.	
6. Special PPE for the operation must be noted on the WP in line with the work involved.	

4.2.6 Pressure testing	Requires WP level 1
Testing of newly installed or modified tanks/piping/Xmas trees in accordance with an approved pressure-testing procedure, and testing above working and/or design pressure.	
Preconditions and restrictions	
<ol style="list-style-type: none"> 1. Executing personnel must be familiar with the equipment being tested (design assumption, pressure rating, etc) and the test equipment to be used. 2. A test procedure for the relevant job must be available, and include a work description which covers isolations/ valve and blind lists and marked-up drawings. 3. Liquid (water) will normally be used as the test medium. If, exceptionally, another test medium is used, this must be clearly stated in the WP application. 	
Operational and safety preparations by area technician	
<ol style="list-style-type: none"> 1. Isolation/blinding. 2. Safety tags/locking. 	
Operational and safety preparations by executing skilled worker	
<ol style="list-style-type: none"> 1. Verify mechanical isolation. 2. Continuous guard/radio communication. 3. Implement barriers/warning signs. 4. Coordinate with the CCR/area technician. 5. PA announcements when the work starts and finishes. 6. Procedures/checklists for the operation must be known. 7. Other requirements/preparations: equipment used for pressure testing must be calibrated, approved and certified. Alternative escape routes must be established if normal escape routes are blocked. 	

4.2.7 Work over the sea	Requires WP level 1
<p>Work over the sea refers to work done outside permanent railings where a risk of falling into the sea exists. Rope access (RA) work is not defined as being done over the sea when it accords with <i>NS 9600 (Soft Standard): Arbeid i tau</i>. See the sub-section on other activities/critical operations requiring WP level 1 in section 1.2.1.</p> <p>Work from a hydraulic basket in a moonpool and on approved scaffolding is <u>not</u> defined as work over the sea when an additional barrier is used.</p> <p>Example of additional barriers include:</p> <ul style="list-style-type: none"> - fall arrest equipment - man-riding belt - net - scaffolding with extra-high railings, erected in accordance with class 3 and certified as class 2, which must be recertified once a week or after external influences such as wind and weather. 	
<p>Preconditions and restrictions</p> <ol style="list-style-type: none"> 1. Wind: 30 knots measured 10 metres above sea level. 2. Waves: maximum height of five metres (equivalent to three metres significant height). Emergency preparedness: establish MOB response. Lighting/visibility: work must only take place if lighting and visibility are sufficient for the work and for rescuing personnel. 3. Roll/motion: the work must not take place if roll or heave of a floating facility poses a risk to personnel involved. 4. Diving operations: in the event of diving close to the work site, the operations manager on the diving support ship must give their consent that work over the sea is permissible. 	
<p>Comments</p> <ol style="list-style-type: none"> a. More stringent restrictions may apply on a facility because of launch capabilities, crane limitations, etc. b. Where floating production facilities with drilling activities are concerned, work over the sea may be governed by special working procedures for the specific facility. 	
<p>Operational and safety preparations by area technician</p>	
<ol style="list-style-type: none"> 1. Other: prevent discharges/overflows from operational systems when personnel are working under the cellar deck. 	
<p>Operational and safety preparations by executing skilled worker</p>	
<ol style="list-style-type: none"> 1. Continuous guard/radio communication in accordance with 4.2.13 Duties of the safety guard during work over the sea. 	
<ol style="list-style-type: none"> 2. Procedures/checklists for the operation must be known. 	
<ol style="list-style-type: none"> 3. Special PPE for the operation: lifebuoy with line and light must be readily available. PPE must be tailored to the working conditions and may include a life jacket/vest, safety harness with integrated buoyancy aid, safety line and rescue belt. 	
<ol style="list-style-type: none"> 4. Other requirements/preparations: the need for measures to prevent dropped objects falling to lower levels or onto vessels must be assessed. 	

4.2.8 Work with radioactive substances		Requires WP level 1	
Work with radioactive substances/isotopes, including work on systems involving radioactive scale (LSA).			
Preconditions and restrictions Regulations issued by the Norwegian Radiation Protection Authority <u>always</u> apply when working with/using radioactive sources. The matrix below only specifies requirements which relate directly to dealing with WPs.	Use of radioactive isotopes	Low radiation activities	
		Instruments with radioactive sources	Low specific activity (LSA) deposits
1. Only authorised personnel can do work involving radioactive substances, and a radiation protection supervisor must be present on the facility.	x		
2. LSA-contaminated equipment and materials are classified as radioactive if radiation exceeds 10Bq/g of ²²⁶ Ra, or the dose rate on the outer surface is more than double the background radiation.			x
3. Personnel who are to assist during radiography work or with LSA materials must have received information and training on radiation hazards and relevant protection against such hazards.	x	x	x
4. The dose rate for exposed personnel must be measured (by Geiger counter) before the work starts.	x	x	x
5. The emergency response plan for radiation protection must be known, and emergency equipment must be available.	x		
Operational and safety preparations by area technician			
1. Where LSA activities are concerned, the area technician's operational and safety preparations will usually relate to requirements for entry or work on hydrocarbon systems.		x	x
2. Measures against radioactive radiation.	x	x	x
3. Other: radioactive radiation may affect instruments based on radioactive measurements. The effect on process equipment using such measurements must therefore be assessed specially when using radioactive isotopes.	x		
Operational and safety preparations by executing skilled worker			
1. Barriers/warning signs/PA announcements: where the radiation level may exceed 7.5 µSv/hour is defined as a hazardous area which must be monitored, cordoned off and provided with signs indicating a radiation hazard. Other work is prohibited in such areas. PA announcements when the work starts and finishes.	x	x	x
2. Coordination with the CCR/area technician.	x	x	x
3. Procedures/checklist for the operation must be known.	x	x	x
4. Special PPE for the operation: must be used to prevent skin coming in contact with LSA materials or inhalation of dust. Personnel working with isotopes must wear a personal dosimeter. That also applies when working with LSA if the exposure exceeds 7.5 µSv/h.	x		x
5. Other requirements/preparations: LSA materials must be kept moist to prevent dust inhalation. Openings in LSA-contaminated equipment must be covered or wrapped in plastic. Personnel who handle LSA materials must pay special attention to personal hygiene and wash their hands thoroughly before consuming food/beverages.			x

4.2.9 Work with hazardous chemicals	Requires WP level 1
<p>Work involving chemical products classified as chemical substances and mixtures which may be hazardous to health or the environment, or pose a risk of fire or explosion. Examples of work with dangerous substances include:</p> <p><u>Fire/explosion hazard</u>: Handling/use of flammable chemicals where the volume involved and/or proximity to ignition sources pose an enhanced risk of ignition.</p> <p><u>Environmental hazard</u>: Work which poses an increased risk of chemical discharges to the sea, where the volume to be used exceeds one m³.</p> <p><u>Health hazard</u>: Heating of surface-treated materials which may result in the thermal decomposition of paint, for example. Work on piping systems, tanks and associated components which may pose a risk of releasing chemical products. Grinding, sandblasting or cutting structures, or work generating dust or hazardous chemical pollution which is harmful to health and which other personnel may be exposed to.</p> <p>A WP level 2 is required for:</p> <ul style="list-style-type: none"> - painting involving the use of brushes and rollers, regardless of the hazard category - work on piping systems, tanks and associated components which does not risk the release of hazardous substances, or which involves a lower level of risk. <p><u>Exemption from a WP</u>: The individual operator company may decide that work which involves handling chemicals may be done without the use of a WP. See chapter 1.2.6. Such activities may include:</p> <ul style="list-style-type: none"> - normal activities in production, drilling, logistics, maritime operations or hotel operation providing relevant procedures, safety data sheets and risk assessments performed with proposed barriers are known to and utilised by the executing personnel. - handling chemicals in closed systems (pipes/hoses) with drip-free connections which prevent spills during connection and disconnection - using small volumes of red or black chemicals (such as tubes of adhesive or sprays) where the work description forms part of the risk assessment. 	
<p>Preconditions and restrictions</p> <ol style="list-style-type: none"> 1. Chemicals must be labelled as specified in the regulations and approved for use on the facility, see the guidelines of the individual operator company. 2. Safety data sheets must be available. 	
<p>Operational and safety preparations by area technician</p>	
<ol style="list-style-type: none"> 1. Depressurisation of equipment if the piping system/equipment is to be opened. 	
<ol style="list-style-type: none"> 2. Draining/emptying if the piping system/equipment is to be opened. 	
<ol style="list-style-type: none"> 3. Treatment/removal of chemical fumes is assessed in relation to the specific work to be carried out. 	
<ol style="list-style-type: none"> 4. Isolation/blinding of equipment from other parts of the plant in accordance with guidelines of the individual operator company if the piping system/equipment is to be opened. 	
<ol style="list-style-type: none"> 5. Safety tags/locking. 	
<ol style="list-style-type: none"> 6. Other: checking for leaks. Safety data sheet or action card must be reviewed before work starts. 	
<p>Operational and safety preparations by executing skilled worker</p>	
<ol style="list-style-type: none"> 1. Verify mechanical isolation if the piping system/equipment is to be opened. 	
<ol style="list-style-type: none"> 2. Barriers/warning signs: the area must be cordoned off if a risk exists of exposing other personnel. 	
<ol style="list-style-type: none"> 3. Safety data sheet or action card must be available and reviewed by executing personnel before work starts. 	
<ol style="list-style-type: none"> 4. Procedures/checklists for the operation must be known. 	
<ol style="list-style-type: none"> 5. Special PPE for the operation: must be used as specified in the safety data sheet or action card. Safety equipment such as an emergency shower and eyewash station must be available. 	
<ol style="list-style-type: none"> 6. Other requirements/preparations: products must be stored and used correctly as specified in the safety datasheet. 	

4.2.10 Work with explosives	Requires WP level 1
Preparation, arming and control of explosives.	
Preconditions and restrictions 1. Only authorised personnel may carry out this type of work.	
Operational and safety preparations by area technician	
Operational and safety preparations by executing skilled worker 1. Barriers/warning signs: the area must be cordoned off and marked with warning signs. 2. PA announcement before work starts. 3. Procedures/checklists for the operation must be known.	
4. Other requirements/preparations: where well operations involving the use of explosives are concerned, the perforation and safety procedures must be described in the relevant well activity programme. Radios must be secured if radio silence is required.	

4.2.11 Fire, entry and safety (FES) guards

The following criteria are applied in selecting personnel to act as FES guards:

- FES guards are not intended to be used for rescue work.
- personnel with valid basic safety and emergency response training for the NCS have the necessary general competence.
- personnel who have completed basic training for land-based facilities (two-day course) have the necessary general competence.
- assurance must be obtained that no conflict arises between the assignment as an FES guard and other work or emergency response tasks and/or physical work.
- the recommendation is that FES guards are provided with a high-vis vest that makes their role clear.

4.2.12 Duties of the fire guard		OK
The fire guard must:		
General	Have received necessary training in accordance with company guidelines.	
	Be clearly identified as the person discharging the guard function.	
	Have participated in a possible SJA/reviewed the SJA.	
Communication/ warning	Know the location of the nearest manual fire call point/telephone.	
	Have agreed a halt signal with the executing skilled workers.	
	Have established radio communication with the CCR if this is required by the WP.	
Emergency preparedness/ response	Have an intact dry chemical fire extinguisher at the work site and other firefighting equipment as required by the WP.	
	Know the location of the nearest fire hydrant/hose reel and that it is functioning.	
	Know the location of the release button for the relevant sprinkler system.	
	Ensure that the personnel involved are familiar with escape routes.	
Preparations	Have checked and placed a portable gas detector at the work site.	
	Know where the power supply to welding/electrical equipment can be switched off.	
	Ensure that the area is tidy and cleared of flammable materials, including behind and beneath the work site and inside cavities.	
	Check that the necessary equipment is covered with fire blankets.	
	Check that drains have been plugged/covered.	
	Check that gas bottles have been secured.	
	Check that hoses/cables are in acceptable condition and hung up.	
	Check that fire blankets or the like will prevent the spread of sparks.	
During the work	Take no active part in the work and always be present when hot work is under way.	
	Monitor work conditions and the surroundings so that a halt can be called if circumstances dictate this.	
	Halt the work if the portable gas detector sounds an alarm.	
In the event of interruptions to/ completion of the work	Switch off electrical equipment/close gas bottles.	
	Inform the area technician if safety systems have been isolated, so that these can be reactivated.	
	Be present during heat treatment until the temperature has cooled to 200°C.	
	Ensure that no ignition sources are left behind which might ignite a fire at a later stage.	
Response to fire in the relevant area	Alert fellow workers and sound the alarm. Inform the CCR.	
	Make an immediate contribution at the scene if this poses no risk to their own safety or that of others.	
	Shut off equipment/power.	
	Start fire-fighting/extinguishing	
	Remove gas bottles.	
Other alarms	Alert fellow workers and halt the work.	
	Shut off equipment/power and secure the work site.	
	Muster in accordance with the alarm instructions.	

4.2.13 Duties of the safety guard during entry		OK
The safety guard must:		
General	Have received necessary training in accordance with company guidelines.	
	Be clearly identified as the person discharging the guard function.	
	Have participated in/reviewed the SJA.	
Communication/ warning	Know the location of the nearest manual fire call point/telephone.	
	Have established radio communication with the CCR and visual/radio contact with the personnel making entry.	
	Have agreed a halt signal with the executing personnel.	
Emergency preparedness/ response	Have rescue equipment available at the work site, such as safety line, rescue harness, Ex-proof flashlight, breathing apparatus with buddy mask and possible other equipment specified in the WP.	
	Be capable of using/operating the rescue materials/equipment.	
	Check and be able to utilise the breathing equipment to be used for rescue.	
	Ensure that the personnel involved are familiar with the escape routes.	
During the work	Take no active part in the work and always be present while entry is under way.	
	Stay by the entrance to the tank/container/space, keep watch and monitor the number of personnel who enter.	
	Monitor work conditions and the surroundings so that a halt can be called if circumstances dictate this.	
	Halt the work if the portable gas detector sounds an alarm.	
In the event of interruptions to/ completion of the work	Secure equipment/the work site.	
	Inform the area technician if safety systems have been isolated, so that these can be reactivated.	
Response to undesirable incidents during entry	Alert fellow workers and sound the alarm. Inform the CCR.	
	Make an immediate contribution at the scene if this poses no risk to their own safety or that of others.	
	Secure equipment/the work site.	
Other alarms	Alert fellow workers and stop the work.	
	Secure equipment and the work site.	
	Muster in accordance with the alarm instructions.	

4.2.14 Duties of the safety guard during work over the sea		OK
The safety guard must:		
General	Have received necessary training in accordance with company guidelines.	
	Be clearly identified as the person discharging the guard function.	
	Have participated in a possible SJA/reviewed the SJA.	
Communication/ warning	Know the location of the nearest manual fire call point/telephone.	
	Have established radio communication with the CCR/radio room/MOB response and work site.	
	Agree the communication routine with the parties involved, including information at start-up, on completion, and in the event of interruptions to the work.	
	Communication channels must be checked before work starts.	
Emergency preparedness/ response	Ensure that the MOB response is informed and operational before work starts.	
	Ensure that personnel involved are familiar with escape routes.	
	Learn the weather restrictions for work over the sea and check the prevailing weather conditions.	
During the work	Take no active part in the work and always be present when work over the sea is under way.	
	Remain on the permanent deck and maintain an unobscured view of executing personnel.	
	Have an overview of the number of personnel involved in the work, keep watch and sound the alarm should anyone fall overboard.	
	Monitor changes in weather conditions/visibility and light conditions, and halt the work if the conditions and restrictions applying to the work cease to be met.	
	Monitor work conditions and the surroundings so that the work can be halted if circumstances dictate this.	
In the event of interruptions/ completion of the work	Secure equipment/the work site.	
	Inform the area technician if safety systems have been isolated, so that they can be reactivated.	
	Comply with the agreed communication routine.	
	Monitor personnel until everyone is back on the permanent platform deck.	
Response to man overboard (MOB)	Alert fellow workers and the CCR/MOB response, and sound the alarm.	
	Throw out a lifebuoy.	
	Maintain visual contact with the person.	
	Secure equipment/the work site.	
Other alarms	Alert fellow workers and halt the work.	
	Secure equipment/the work site.	
	Muster in accordance with the alarm instructions.	
	Monitor personnel until everyone is back on the permanent platform deck.	

APPENDIX A: REVISION HISTORY

The following administrative changes have been made in revision 6:

1. The guidelines have been upgraded to the new template for Offshore Norge guidelines.
2. The foreword has been revised to accord with the new template for Offshore Norge guidelines.
3. Chapter 2 on revision history has been moved to appendix A, and the numbering of both chapters and appendices updated accordingly.
4. Appendix 1 on a common model for operational safety has been removed. Appendix C on WP forms has been updated. Minor changes to text and structure have been made in the appendix.

APPENDIX B: GUIDELINES FOR COMPLETING AND USING WP FORMS

B.1 Introduction

These guidelines have been developed to assist the user in completing and using WP forms.

B.2 Planning the work

The applicant first identifies on the form whether the application relates to a WP level 1 or WP level 2, and checks which type(s) of work is(are) involved.

Section 1, top section	Identification of level and type of operation/work
Logo field	The company can enter its logo here
Field for WP no/bar code	Print or write out the WP number and possible bar code
Field for activity/work operation	Check the box to indicate the type of activity (not for level 2)

The applicant then completes the fields in the form which identify the work to be done and the person applying for the WP.

Section 1	Identification of the work and the applicant
Applicant name	Name of applicant in block capitals.
Discipline	Name of discipline/department applying for the WP/which will carry out the work.
Phone	Internal phone number on the facility where the applicant can be reached.
Work description	Description of the work.
Identified risks	A description of risk related to the work to be done. What hazards may be generated by the work? What types of accidents might occur and what is the worst that could happen? What forms of energy are in the vicinity, and what risks might they represent? Measures must be implemented to mitigate the risk identified.
Equipment/tools	Brief description of tools and equipment to be used, so that the necessary operational and safety preparations can be identified on the basis of this and the work description.
Installation	Designation of the facility where the work will be done.
Location/module	Designation of the area/module where the work will be done.
Deck	Designation of the deck where the work will be done.
Tag/line no	Identification of line number/equipment tag to be worked on.
Zone	Area/zone classifications where the work will be done.
SAFE JOB ANALYSIS NO	Check the box if an SJA is required. Enter the SJA number if applicable.
REQUIRES APPROVAL FROM ELECTRICAL DEPARTMENT	For companies with a work process where an electrical supervisor is involved in WP approvals, checking this box means that this WP must be approved by a electrical supervisor in accordance with company guidelines. The approver/supervisor for the area/operations usually checks the box. (When this is checked, the electrical supervisor signs part 3 of the form under "Other position" to signify approval.)
WORK ORDER NO	Enter the WO number where relevant.
OPERATION NO	Enter the sub-operation number specified in the WO/work description where relevant.
ISOLATION NO	Enter the number of the associated isolation document (eg, isolation certificate, valve and blinding package or similar) used by the operator company where relevant.
Day/Night/Ongoing work	Check if the work is day or night, and if it is ongoing. (Ongoing means that the WP is a continuation of work done during the previous shift).
Date	Date applied for.
From hour	Start time
To hour	End time.
Extended to hour	Field for approving extension of up to four hours.
Attachment	Reference to such attachments as P&IDs or ISO drawings.

The applicant also enters the operational and safety preparations they recommend based on their knowledge of the work and the facility. At the planning stage of the work, "Required" is checked for the relevant measures.

Section 2 - A	Operational and safety preparations - entered by area technician
Depressurisation	When depressurisation is necessary.
Draining/emptying	When the equipment needs to be drained or emptied.
Cleaning/hydrocarbon removal	When the equipment needs cleaning or hydrocarbon removal.
Isolation by single valve/double block and bleed	When isolation by single valve or by double block and bleed is needed
Blinding/isolation plan	When the equipment needs to be blinded from other parts of the plant, or a more extensive isolation plan is possibly required (isolation certificate, valve and blind package, etc, in accordance with practice in the operator company).
Safety tags/locks	When safety tags or locking is required for the equipment to be worked on, including driving gear.
Venting/extra ventilation	When ventilation/airing out or extra ventilation is required.
Prevent release of oil and gas in the area	When special precautions are required to prevent the release of oil and gas in the area. That means, for example, no taking of samples.
Measures against radioactive radiation	When measures against radioactive radiation are required (radioactive deposits, radioactive instruments, use of isotopes).
Coordinate with other activities	Check this box when special coordination is needed with other activities.
Inspection of the area every hour	When regular inspections by the area technician are needed. Specify the inspection interval.
Other	Space to specify other requirements.
GAS MEASUREMENTS PRIOR TO/DURING THE WORK	Check for the relevant type of gas measurement and possibly the interval between each measurement the area technician or other function is to take. The executing skilled worker must have a portable gas detector for continual gas measurement at the work site, and a checkbox is provided for this in part 2B of the form.
ISOLATION OF SAFETY SYSTEM	Check to specify whether isolation of the safety system is to be performed locally or by the CCR. Also specify which system(s) will be involved, the location affected on the facility and the necessary compensatory measures.

Part 2 – B	Operational and safety preparations – executing skilled worker
Portable gas detector no ... at the work site	When continuous gas measurements are required. Enter the identification number for the instrument. The type of gas which must be measurable has to accord with requirements checked in part 2A under GAS MEASUREMENTS.
Verify isolation	Mechanical isolation must be verified by the executing skilled worker.
Electrical isolation/Locking	When electrical isolation or locking is required. For detailed isolation routines, see the individual operator company's procedures. Space is also provided to enter the tag number of the equipment to be isolated.
Fire extinguish/Fire prevention	When fire prevention measures are needed. These must be proportionate to the work and comply with procedures/checklists.
Welding machine safely located and earthed	When using electrical welding equipment.
Continuous guard/Radio communication	When a safety guard is required for hot work (fire), entry or work over the sea, and/or the executing skilled worker must be contactable by radio.
Drains blocked/Covered	When drains must be blocked or covered during hot work.
Barrier/Warning sign	When barriers and/or warning signs are required at the work site.
Cooperate with CCR/Area technician	When special coordination is required between the executing skilled worker and the CCR and/or the area technician.
Follow requirements for work over the sea/Working at a height	During work over the sea or at a height, requirements may be set for emergency response to personnel falling overboard, weather restrictions, the use of special PPE, etc. Measures must be proportionate to the work and correspond to applicable procedures/checklists.
Safety data sheet or action card read and available	When safety data sheets or action cards are required to be read and available in connection with the use of hazardous substances.
Procedures/Checklist for the operation known	Checking indicates that procedures or checklists exist for the specific operation which must be known to the personnel involved. Space is provided to enter the relevant procedure/checklist number.
Control of temporary lifting equipment	Checking indicates that documentation exists to show that the temporary lifting equipment is approved for use and that its user has the competence specified in the relevant regulations.
Follow requirements for entry	Checking covers the requirements which apply for entry. Measures must be proportionate to the work and accord with procedures/checklists.
Special PPE	Checked when special PPE over and above the normal standard is required. In that case, the type of equipment must be noted on the WP form.
Measures to avoid work-related diseases	When occupational illnesses need to be prevented. This may include the use of lifting equipment to avoid unnecessarily heavy work, remembering the restrictions set for time spent in noisy areas, and varying the work to avoid physical wear and tear. Specific measures must be entered on the blank line.
Other requirements/preparations	Specify other requirements and/or preparations. If a need for stricter operational and safety preparations is identified, they can be added at any stage of the work, including in planning, after a toolbox talk or during execution. Field 8 can be used if field 2B has insufficient space.

The approver/supervisor for the area/operations reviews the WP application completed by the applicant. They check that the necessary operational and safety preparations have been specified. See the explanation above. If necessary, they may add possible further measures to those specified by the applicant. They may also delete items by striking them through and adding their initials, so that it is clear in the subsequent process who made the change. Emphasis must be given close dialogue between applicant and approver/supervisor for the area/operations during the planning stage to ensure mutual understanding of the measures required in the WP.

B.3 Approval of the WP

The approver/supervisor for the area/operations gives their approval by signing in the field provided. If area and operational responsibility are split between two people, they sign on their respective side of the dotted line so that approval is given by both.

A WP level 2 may be approved by the approver/supervisor for the area/operations. A WP level 1 requires additional processing as described below.

Where companies have a work process where an electrical supervisor is involved in WP approvals, the latter can use the "Other position" field to sign.

The HSE function checks and quality-assures the WP application completed by the applicant and the approver/supervisor for the area/operations. Requirements or remarks can if necessary be added to the WP in a dialogue with the applicant and the approver/supervisor for the area/operations.

The overall approver/OIM assesses the WP application in relation to other simultaneous activities and gives their approval by signing in the allocated field.

Part 3 Authorisation/ approval	Explanation
Approver/supervisor for the area/operations	Signature of approver/supervisor for the area/operations
Other position	Signature(s) of other position(s) when relevant. Where companies have a work process which involves an electrical supervisor in WP approvals, the latter will sign here.
HSE function	Signature of the HSE function (for quality assurance)
Overall approver/OIM	Signature of the overall approver/OIM
Remarks/preconditions	Space for possible remarks/preconditions during the approval phase. These will often relate to simultaneous activities/other WPs in the same area.

B.4 Preparation of equipment and facility before the work starts

B.4.1 General

The area technician checks that the WP is correctly completed and bears the required approval signatures, and evaluates whether the work can start when account is taken of other ongoing activities in the area. They perform their operational and safety preparations and enter their initials in the relevant field in section 2A of the form when the measures have been implemented.

When safety systems are isolated locally, the area technician signs the relevant field in section 4A of the form. Should the isolation be scheduled for a later stage of the work, this is noted in the remarks space.

Gas and industrial hygiene measurements are performed if required. Where entry is concerned, gas measurement results are logged in section 4B of the form with the time and initials. The vacant line in the table is used for other types of gas than the one specified, such as benzene.

The area technician provides their clearance by signing the “Work site approved in accordance with requirements” field. The time is again noted.

The executing skilled worker carries out their operational and safety preparations and enters their initials in the field for this in section 2B when the measures have been implemented. Should a measure be scheduled for a later stage in the work, such as a PA announcement, the signature means that the executing skilled worker is aware of the measure and will ensure that it is carried out at the relevant point in time.

Before work can start, the executing skilled worker enters their name in block capitals in the “Precautions understood and are/will be fulfilled” field.

CCR technician

Where isolation of safety systems is concerned, the CCR technician confirms that this has been done by signing section 5A of the form. Should the isolation be scheduled for a later stage in the work, this is noted in the remarks space.

When the work is authorised for start-up, the CCR technician signs the “The work is cleared with the CCR” field in section 5A of the form. They again note the time.

If responsibility for maintaining an overview of and authorising level 2 work is delegated to the approver/supervisor for the area/operations or the area technician, the CCR does not sign/keep a copy of the WP.

B.4.2 WP level 2 over several days

If the preparations cover a WP level 2 approved for several days, the signature table in part 5 of the level 2 form is used for the second and subsequent authorisations of the work.

B.5 Executing the work

General

The executing skilled worker is now ready to start the work. They will have the original of the WP available at the work site.

The area technician follows up the WP in line with the specified requirements.

Extension

Should it become necessary to extend the WP, the field for this in section 1 is used. Space has been provided to note the hour when the extension expires and for relevant signatures.

If this applies to a WP level 2 extending over several days, the signature table is also used for the extensions.

B.6 Completion and reactivation

B.6.1 General

The executing skilled worker completes section 6B when the work is completed. Boxes are checked to indicate that the work site is cleared (including waste sorting) and secured, and whether the work is finished/unfinished. The executing skilled worker then signs the form.

The area technician specifies in section 6A whether locks/tags have been removed and whether the equipment is ready/not ready for operation. Any locally isolated safety system is reactivated and a confirmatory signature is provided in section 4 of the form. Finally, the area technician enters the time and signs in section 6A.

The CCR technician reactivates isolated safety systems and signs for this in section 6A. Should responsibility for maintaining an overview of and authorising level 2 work be delegated to the approver/supervisor for the area/operations or the area technician, the CCR does not sign/keep a copy of the WP.

B.6.2 Level 2 WP over several days

The signature table in section 5 of the level 2 form is used when temporarily terminating a WP level 2 which extends over several days. Section 6 of the form is used when the work is fully completed.

B.7 Signatures

General

The whole work team signs in this field to ensure that everyone is familiar with the details of the WP – particularly those relating to the identified measures to mitigate risk.

APPENDIX C: WORK PERMIT (WP) FORMS

C.1 Administration of work permits

The companies are recommended to have WPs which are recognisable to people moving between multiple facilities. The WP should contain the following items.

- Part 1: Description of the work, identification of risk and who will do the work
- Part 2: Operational and safety preparations, measures by the area technician and the executing skilled worker
- Part 3: Approval/authority
- Part 4: Measures before and during the work
- Part 5: Authorisation
- Part 6: Completion
- Part 7: Signature field for the work team
- Part 8: Other

It is also recommended that the form is recognisable in terms of the colours used.

C1 WP form level 1 (pages 1 and 2)

C2 WP form level 2 (pages 1 and 2)

See the following pages

C.2 Using the form

All companies must use the dedicated forms for WP level 1 or 2 as specified in appendices C3 and C4.

C.3 WP level 1 form

	WORK PERMIT LEVEL 1	NO.:
<input type="checkbox"/> Hot work A <input type="checkbox"/> Isolation of safety system <input type="checkbox"/> Dangerous substances <input type="checkbox"/> Explosives <input type="checkbox"/> Work on hydrocarbon system <input type="checkbox"/> Hot work B <input type="checkbox"/> Pressure testing <input type="checkbox"/> Radioactive materials <input type="checkbox"/> Critical lifting operation <input type="checkbox"/> Entry (confined space) <input type="checkbox"/> Work above sea <input type="checkbox"/> Well operation <input type="checkbox"/> Other/critical operation		
1	Applicant name: _____ Discipline: _____ Phone: _____ Work description: _____ _____ _____	<input type="checkbox"/> SAFE JOB ANALYSIS NO: _____ <input type="checkbox"/> REQUIRES APPROVAL FROM ELECTRICAL DEPARTMENT WORK ORDER NO.: _____ OPERATION NO.: _____ ISOLATION NO.: _____ <input type="checkbox"/> Day Date: <input type="checkbox"/> Night From hour: <input type="checkbox"/> Ongoing work to hour:
	Identified risks: _____ _____ _____	Extended to hour: Area/Operations supervisor Sign: _____ CCR technician Sign: _____ Area technician Sign: _____ Attachment: _____ _____ _____
	Equipment/tools: _____ _____ _____	
	Installation: _____ Location/module: _____ Deck: _____ Tag/line no.: _____ Zone: _____	
OPERATIONS AND SAFETY PREPARATIONS A B		
2	Required performed by Area technician <i>Signature</i> <input type="checkbox"/> Depressurization <input type="checkbox"/> Draining <input type="checkbox"/> Emptying <input type="checkbox"/> Cleaning <input type="checkbox"/> Gasfreeing <input type="checkbox"/> Isolation by single valve <input type="checkbox"/> Double block&bleed <input type="checkbox"/> Isolation by blind <input type="checkbox"/> Isolation plan <input type="checkbox"/> Safety tag <input type="checkbox"/> Lock <input type="checkbox"/> Venting <input type="checkbox"/> Extra ventilation <input type="checkbox"/> Prevent release of oil/gas in the area <input type="checkbox"/> Measures against radioactive radiation <input type="checkbox"/> Coordination with other activities <input type="checkbox"/> Inspection of the area every ____ hours <input type="checkbox"/> Other	Required performed by Executing skilled worker <i>Signature</i> <input type="checkbox"/> Portable gas detector no. _____ on the worksite <input type="checkbox"/> Verify isolation <input type="checkbox"/> Electrical isolation <input type="checkbox"/> Locking Tag. No.: _____ <input type="checkbox"/> Fire extinguisher <input type="checkbox"/> Fire prevention <input type="checkbox"/> Welding machine safely located and earthed <input type="checkbox"/> Continuous guard <input type="checkbox"/> Radio communication <input type="checkbox"/> Drains blocked <input type="checkbox"/> Covered <input type="checkbox"/> Barrier <input type="checkbox"/> Warning sign <input type="checkbox"/> Cooperate with CCR <input type="checkbox"/> Area technician <input type="checkbox"/> Follow requirements for work over sea <input type="checkbox"/> Working at height <input type="checkbox"/> Safety datasheet or action card read and available <input type="checkbox"/> Procedures <input type="checkbox"/> Checklist for the operation known Ref. No.: _____ <input type="checkbox"/> Control of temporary lifting equipment <input type="checkbox"/> Follow requirements for Entry (confined space) <input type="checkbox"/> Special personal protective equipment <input type="checkbox"/> Measures to avoid work-related diseases <input type="checkbox"/> Other requirements/preparations - use field on page 2 if necessary
	GAS MEASUREMENTS PRIOR TO/DURING THE WORK <input type="checkbox"/> Hydrocarbons every ____ hours <input type="checkbox"/> H ₂ S every ____ hours <input type="checkbox"/> Oxygen every ____ hours <input type="checkbox"/> every ____ hours <input type="checkbox"/> Benzene every ____ hours	
	ISOLATION SAFETY SYSTEM <input type="checkbox"/> Locally <input type="checkbox"/> CCR System: _____ _____ Location/area: _____ Compensating measures: a _____ _____	
APPROVAL/AUTHORIZATION		
3	Area/Operations supervisor: _____ Other position: _____ HSE function: _____ Platform Manager/Overall approver	
	Remarks/requirements: _____ _____ _____	

4 PRECAUTIONS PRIOR TO/DURING WORK EXECUTION

Safety system isolated/reactivated	Signature:	Gas test - value				
Isolated locally / CCR						
Reinstated locally / CCR		HC				
Remarks:		O ₂				
		H ₂ S				
		Benzene				
		Time/sign.				

5

A
Work site cleared according to requirements Area technician
Time: Signature: /
The work is cleared with CCR CCR technician Time: Signature: /

B

Precautions understood and are/will be fulfilled Executing skilled worker Name: (Block letters)

6

A

All locks/tags removed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Equipment ready for operation	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Area technician		
Time: Signature: /		
Work cleared by CCR CCR technician Time: Signature:		

B

<input type="checkbox"/> Work completed	<input type="checkbox"/> Work not completed
<input type="checkbox"/> Workplace cleaned and secured	
Executing skilled worker Signature:	
Original: Work site	
Copy:	

7

Date	Executing skilled workers in work team: (Block letters)	Signature

8

Date	Other requirements/preparations	Signature

C.4 WP level 2 form

