HSWA

INTERPRETIVE GUIDELINES

PETROLEUM: Well operations and well examination schemes

These guidelines cover part 6 of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 that applies to permit operators who manage or control a well operation or a production installation, or drilling contractors of non-production installations

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New Zealand Government

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These interpretive guidelines explain the regulations associated with design, construction, suspension, and abandonment of wells, and well examination schemes under the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016.

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INTRODUCTION

If you are a permit operator of a well operation, you have duties relating to the safety of all well operations under part 6 of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 (the Regulations).

Part 6 of the Regulations covers the well's lifecycle, along with specific well operations such as well design, construction, suspension, and abandonment. You also have the duty to prepare and implement a well examination scheme.

A well examination scheme provides an independent check on well design, construction, operation, maintenance, modification, suspension, and abandonment operations. A well examination scheme must be prepared and implemented for all wells, whether they existed before the Regulations came into force or were added after this date.

A well examination scheme does not apply to an abandoned well.

1.1 Focus of guidelines

Table 1 shows the specific Regulations these interpretive guidelines cover.

PART OF REGULATIONS	REGULATION NUMBER	REGULATION HEADING
Part 6: Well operations	59	Duty to assess conditions below ground before well is designed
	60	Duty to continue to assess conditions below ground
	61	Duty to ensure well designed to allow safe suspension or abandonment
	62	Duty to ensure use of appropriate materials
	63	Duty to ensure use of suitable well control equipment
	64	Duty to prepare and implement well examination scheme
Schedule 8	Schedule 8 (clauses 9 to 12)	Information required in notice of well operations

Table 1: Regulations covered in these guidelines

1.2 How to use this document

Table 2 shows the layout of these interpretive guidelines and explains what the colours signify.

REGULATION	*As they appear in the Regulations.*
GUIDANCE	As WorkSafe interprets the regulations.
	Examples and more information.

Table 2: Layout of guidelines

1.3 Your role as a permit operator of a well operation

The Regulations require you to maintain well integrity so far as is reasonably practicable. You have a primary duty to make sure:

> so far as is reasonably practicable, there can be no unplanned escape of fluids from the well

> risks to the health and safety of any person from the well or anything in it, or from strata to which the well is connected, are as low as is reasonably practicable.

You must make sure all wells are designed and constructed so both well suspension and abandonment can be achieved safely, without any unplanned escape of fluids. You must be able to show, through reasoned and supported arguments, there are no other practicable measures that you could reasonably take to further minimise risks.

Well design and construction

Getting the well's design right is critical to ongoing compliance with the Regulations over the well's life cycle. Well construction must be carried out in accordance with the design requirements.

You must make sure, so far as is reasonably practicable, that every part of the well is composed of suitable materials to comply with the regulations over the well's lifecycle.

You must continue to assess conditions below ground while carrying out any well operation, making sure there is no unplanned escape of fluids from the well or reservoir.

A design notice is required for certain production installations and for any well that extracts petroleum (regulation 19 and Schedule 3).

Well suspension and abandonment

The Regulations require wells to be designed so you can safely abandon it. While the Regulations don't prescribe specific standards for abandonment, this does not mean low standards for well abandonment are acceptable. Abandon wells in line with internationally accepted good practice, incorporating continual improvement in practices and technology.

Well suspension

Well suspension means making the well temporarily inoperative by sealing it. It is usually a short-term measure.

Advise WorkSafe if a well is to be suspended for longer than initially planned or for over 24 months. You are responsible for making sure the barriers will maintain their integrity for the suspension period.

WorkSafe may enquire about the steps taken to ensure the suspended well is safe for the period of suspension.

Well abandonment

Well abandonment makes the well permanently inoperative. If you are abandoning a well, make sure, so far as is reasonably practicable, that fluids cannot escape from the well or its connected strata.

Well examination scheme overview

You must have a current documented well examination scheme for each well, which details how well examination will be carried out.

You must:

> prepare and implement a well examination scheme
> make sure the well examination scheme is followed
> make sure an independent and competent person carries out the well examination
> review and revise the well examination scheme as often as is appropriate.

Make sure to take suitable action on any reports made by the independent and competent person conducting the well examination scheme.

1.4 The independent and competent person's role

The Regulations define 'independent' in regulation 4 and 'competent person' in regulation 3. For well examination schemes specifically, an independent and competent person should be able to demonstrate competence in the full range of well operations the scheme covers and:

> have appropriate:
  - industry background
  - knowledge
  - experience
  - skills
  - qualifications
> be objective and free from influence.

1.5 The permit operator's (or drilling contractor's) role

The permit operator or the drilling contractor (as the case may be) must make sure petroleum workers have sufficient training, experience and supervision; and each person is competent and can perform their job safely and effectively.

The installation's safety case or major accident prevention policy (MAPP) can reference or incorporate extracts from the well examination scheme.

Certificates of fitness for offshore installations

Regulation 46 deals with certificate of fitness matters, including well integrity during suspension and abandonment.

Before issuing a certificate of fitness, the inspection body must be satisfied that all parts of the installation or the equipment described in the certificate (eg well control equipment and associated control systems) have been designed, constructed, maintained, suspended, or abandoned in accordance with generally accepted and appropriate industry practice.

For more information on certificates of fitness, see WorkSafe's interpretive guidelines *Petroleum: Certificates of fitness and verification schemes for offshore installations*.

1.6 WorkSafe's role

WorkSafe's role as the Regulator includes inspecting well operations covered by the Regulations. The High Hazards Unit (HHU) petroleum inspectorate performs this function.

WorkSafe may conduct periodic reviews and site inspections to make sure you are meeting the objectives and standards declared in their well examination scheme(s). A key aspect of these reviews by WorkSafe will be to monitor your adherence to the commitments made in your well examination scheme(s).

02/

PART 6:
WELL OPERATIONS

This section applies to you if you are a permit operator who manages or controls a well operation, a permit operator of a production installation, a drilling contractor of a non-production installation.

2.1 Assessing conditions below ground

REGULATION

Regulation 59

(1) Before the design of a well is commenced, a permit operator of a well operation must assess—

(a) the geological strata and formations through which the well may pass; and

(b) fluid within those strata and formations; and

(c) any hazards that those strata and formations may present.

(2) To comply with regulation 56, the permit operator of the well operation must ensure that the findings from the assessment are taken into account when the well is designed and constructed.

(3) A permit operator who contravenes this regulation commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $6,000:

(b) for any other person, to a fine not exceeding $30,000.

REGULATION

Regulation 60

(1) While well operations are being carried out, a permit operator of a well operation must continue to assess—

(a) the geological strata and formations through which the well may pass; and

(b) fluid within those strata and formations; and

(c) any hazards that those strata and formations may present.

(2) If any change to any matter described in subclause (1)(a) to (c) is observed, the permit operator of the well operation must, if necessary, ensure that the following are modified in order to comply with regulation 56:

(a) the design and construction of the well:

(b) any procedures.

(3) A permit operator who contravenes this regulation commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $10,000:

(b) for any other person, to a fine not exceeding $50,000.

GUIDANCE

ASSESS CONDITIONS BELOW GROUND BEFORE DESIGNING THE WELL

Before the well design stage, you must assess the nature of the geological strata and formations through which the well may pass. This assessment must consider the fluids within these structures and identify any hazards that may cause harm to people.

The below ground assessment should assess what natural events can occur in or around the well's intended position.

During the design stage, focus on selecting a design that makes sure risks to the health and safety of any person are as low as is reasonably practicable. As the design stage is all 'on paper', it is also the most cost-effective time to alter the well design.

Use materials that will enable practical delivery of the design over the well's lifecycle within the operational limits identified as part of the design process.

The well's resulting design should cover matters identified from the below ground assessment. Make sure the design documentation you use to construct the well considers your primary duty as the permit operator of a well operation.

Consider these points in the design stage:

- the well's purpose
- the hydrocarbons expected to be lifted
- any expected formations, temperature and pressure predictions
- production lift (load case) scenarios
- well path and side-track alternatives
- worker competence and supervision requirements
- examination by the independent and competent person as part of the well examination scheme
- proximity of the new well to existing wells
- potential hazardous formations and fluids management
- decline of the well in-service including wear, corrosion and erosion
- use of conductor/casing cementing additives to improve well integrity
- use of artificial lift techniques and the impact on the well's integrity
- possible life extension beyond original design life

> the type and number of barriers to avoid unplanned escape of fluids from the well

> the well's emergency shutdown under different emergency situations.

These points are equally applicable when altering or modifying an existing well; or where conditions found in an existing well require changes in one or more of the new well's design assumptions.

CONTINUALLY ASSESS CONDITIONS BELOW GROUND

The existence of the well permanently alters the geology of the strata and formations through which it passes. As a result, continue to assess the nature of the geological strata and formations, and the fluids within them. Carry out a risk assessment to identify if the conditions may cause harm to people during the well operation. Ongoing assessment may identify the need to redesign or modify the well's design.

A change in conditions below ground is only one reason that may lead to considering redesigning a well part, component or assembly.

During well operations, monitor and analyse the well's integrity, including the conditions below ground. Use this data to inform any decision to change the well's design or construction.

Any resulting well redesign must comprehensively cover any matters identified from the below ground assessment. Make sure the documentation you use to redesign the well considers your primary duty as the permit operator of a well operation. This may require updating all relevant procedures affected by the well's redesign.

2.2 Ensure the well's design allows safe suspension or abandonment

REGULATION

Regulation 61

(1) A permit operator of a well operation must ensure, so far as is reasonably practicable, that the well is designed and constructed so that—

(a) the well can be suspended or abandoned in a safe manner; and

(b) after its suspension or abandonment, there can be no unplanned escape of fluids from the well or from the reservoir to which it led.

(2) A permit operator who contravenes subclause (1) commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $10,000:

(b) for any other person, to a fine not exceeding $50,000.

GUIDANCE

You must make sure, so far as is reasonably practicable, all wells are designed and constructed so both well suspension and abandonment can be achieved safely, without any unplanned escape of fluids (from the well or reservoir). The design stage is the most efficient and economic time to ensure risks to the health and safety of any person are as low as is reasonably practicable.

WELL SUSPENSION

Well suspension means making the well temporarily inoperative by sealing it. It is usually a short-term measure.

Advise WorkSafe if a well is to be suspended for longer than initially planned or for over 24 months. You are responsible for making sure the barriers will maintain their integrity for the suspension period.

WorkSafe may enquire about the steps taken to ensure the suspended well is safe for the period of suspension.

WELL ABANDONMENT

Well abandonment makes the well permanently inoperative. If abandoning a well, make sure, so far as is reasonably practicable, that fluids cannot escape from the well or its connected strata.

TESTING OF BARRIER INTEGRITY

Test each completed barrier's integrity before moving on to construct the next barrier. Testing may involve pressure, weight, and logging (sonic, radioactive source, transducer or radioactive tracer). Ensure the barriers hold to the testing pressure.

CARRY OUT MONITORING

If possible, you should monitor the fluid level and pressure above the shallowest set plug at reasonable frequencies.

WELL EXAMINATION SCHEME

The well examination scheme must monitor a well in suspension.

The well examination scheme must document all suspension and abandonment design matters and any related construction matters.

WorkSafe will conduct periodic reviews and site inspections to make sure this duty is being met.

2.3 Use appropriate methods and materials

REGULATION

Regulation 62

(1) To comply with regulation 56, the permit operator of a well operation must ensure, so far as is reasonably practicable, that every part of the well is composed of suitable material.

(2) A permit operator who contravenes subclause (1) commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $10,000:

(b) for any other person, to a fine not exceeding $50,000.

GUIDANCE

In the construction stage, focus on selecting construction methods and materials that will help make sure health and safety risks are as low as is reasonably practicable.

Construct wells using suitable materials for the intended and actual use of the well. The materials should be to a relevant internationally accepted standard suitable for the intended and actual use of the well.

After the design phase, the construction stage is the next most cost-effective point to make alterations to incorporate safety into the well.

Consider these points when selecting suitable materials for the well:

- materials are consistent with the well's design specification
- store, handle and install materials in compliance with applicable codes, standards, and manufacturer's or supplier's instructions
- documented evidence that the materials used are suitable including, as applicable, results from field batch and random sample testing
- the materials are suitable for the environment, including possible exposure to corrosive fluids at a range of temperatures and pressures
- any replacement parts or assemblies match or exceed the materials' design criteria throughout their use at the well including items such as:
  - conductor or casing pipe
  - wellhead including blowout preventers
  - well completion including plugs, tubing and production (Christmas) tree.
- the independent and competent person examines the materials as part of the well examination scheme.

CONDUCTOR BATCH OPERATIONS

WorkSafe considers installing two or more well conductors in one programme as a batch operation.

The conductor is an integral part of a well. For the purposes of the regulations, once a conductor is in place, there is an existing well. If the well is to be left for a period of time, inform WorkSafe. The independent and competent person must examine the conductor's design and installation as part of the well examination scheme.

2.4 Use suitable well control equipment

REGULATION

Regulation 63

(1) Before any well operation is carried out, the permit operator of the well operation must ensure that suitable well control equipment and associated control systems are provided to protect against the uncontrolled release of petroleum.

(2) When any well operation is carried out, the permit operator of the production installation or the drilling contractor of the non-production installation with which the well operation is associated must ensure, so far as is reasonably practicable, that suitable well control equipment and associated control systems are used when the well and operational conditions require.

(3) A permit operator or a drilling contractor who contravenes this regulation commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $10,000:

(b) for any other person, to a fine not exceeding $50,000.

GUIDANCE

It is your responsibility to make sure well control equipment complies with all applicable internationally recognised standards for design, material selection, and fabrication.

PERMIT OPERATORS OF WELL OPERATIONS

You must provide suitable well control equipment and any associated control systems before any well operation is carried out.

THE PERMIT OPERATOR OR THE DRILLING CONTRACTOR OF THE INSTALLATION

During any well operation and when the well and operational conditions require it, the permit operator or the drilling contractor (as the case may be) must make sure, so far as is reasonably practicable, that suitable well control equipment and associated control systems are used.

The certificate of fitness should cover any well control equipment and associated control systems. For more information on certificates of fitness, see WorkSafe's guidelines *Petroleum: Certificates of Fitness*.

2.5 Prepare and implement a well examination scheme

REGULATION

Regulation 64

(1) Before the design of a well is commenced or adopted, a permit operator of a well operation must prepare and implement a well examination scheme for the well.

(2) If the permit operator of the well operation has already prepared and implemented a well examination scheme for another well, the permit operator may, instead of developing a new well examination scheme, modify the existing scheme to incorporate the new well.

(3) The permit operator of a well operation must review and revise the well examination scheme as often as is appropriate.

(4) In this regulation, well examination scheme means arrangements for examinations of the well that are—

(a) recorded in writing; and

(b) suitable for ensuring (together with the assistance of any other measures the well operator may take) that the well is designed, constructed, operated, maintained, modified, suspended, and abandoned so that,—

(i) so far as is reasonably practicable, there can be no unplanned escape of fluids from the well; and

(ii) risks to the health and safety of persons from the well or anything in it, or from strata to which the well is connected, are as low as is reasonably practicable; and

(c) conducted by an independent and competent person.

(5) To avoid doubt, this regulation does not apply to a well that has been abandoned.

(6) A permit operator who contravenes subclause (1) or (3) commits an offence and is liable on conviction,—

(a) for an individual, to a fine not exceeding $10,000:

(b) for any other person, to a fine not exceeding $50,000.

GUIDANCE

Well examination schemes apply to the design, construction, operation, maintenance, modification, suspension and abandonment stages of a well's lifecycle.

Design stage

The independent and competent person conducting the well examination should examine the well design to ensure its integrity and safety. The design stage is the most cost-effective time to ensure any potential health and safety risks to people on or near the well are as low as reasonably practicable.

Construction stage

The independent and competent person should examine the well while it is being constructed. This is to make sure the well is constructed according to its documented design.

Operation and maintenance stage

The independent and competent person should examine the operations and any maintenance of a completed well. This should include routine operations, maintenance and monitoring.

Modification stage

Adequately cover and incorporate well modifications in the well examination scheme.

Examples of modification are:

> perforations
> recompletions
> replacing existing tubing.

The independent and competent person should examine any modification or proposed modification within the well examination scheme's scope.

Suspension and abandonment stage

Include all suspended wells in the well examination scheme. Suspended wells should be left in a state that maintains well integrity.

The well examination scheme covers the well abandonment operation. The independent and competent person should examine the well abandonment operation, plans and procedures. When a well is abandoned it no longer needs to be included in the well examination scheme.

CONTENTS OF A WELL EXAMINATION SCHEME

Any well examination scheme needs to meet the requirements set out in regulation 64(4). The details of how, when and by whom a review is conducted should be part of the well examination scheme.

Implementing a well examination scheme

For any proposed well, you must prepare and put a well examination scheme in place before the design of the well is commenced or adopted.

In complying with this regulation, you can revise an existing well examination scheme for another well or prepare a new one.

REVIEWING AND REVISING THE WELL EXAMINATION SCHEME

You need to review the well examination scheme, and revise it as required, as often as needed to keep it accurate and current. It is your responsibility to make sure that any shortcomings identified are addressed.

The independent and competent person can submit reports to you. Take appropriate and suitable action on any reports made by the independent and competent person.

You may involve the independent and competent person when you revise the well examination scheme.

Reviews may take place when:

> extending the application of the scheme to new wells (eg by buying existing wells)
> planning a new well
> there is a change of the independent and competent person
> there are concerns the well examination scheme is not working well.

The review scope may include:

> compliance with the well examination scheme
> completeness and effectiveness of the well examination scheme
> resolving disputes and shortcomings.

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SCHEDULE 8: INFORMATION REQUIRED IN NOTICE OF WELL OPERATIONS

Schedule 8 lists all the information required for the notice of well operations. This section provides guidance on clauses 9 to 12 which specifically relate to an existing well, or a well that is to be drilled, suspended, or abandoned.

REGULATION

Schedule 8

Note: Clauses 1 to 8 are intentionally omitted.

(9) For a well that is to be drilled,—

(a) particulars, with suitable diagrams, of—

(i) the location of the top of the well; and

(ii) the directional path of the well bore; and

(iii) its terminal depth and location; and

(iv) its position and that of nearby wells, relative to each other; and

(b) particulars of the geological strata and formations, and of fluids within the geological strata and formations, through which the well may pass, and of any major accident hazards that they may contain; and

(c) the methodology for effectively monitoring the direction of the well bore and for minimising the likelihood and effects of intersecting nearby wells; and

(d) a description of the design of the well, including—

(i) any standards that have been applied; and

(ii) the safe limits on its safe operation and use; and

(e) verification by an independent and competent person (as part of the well examination scheme) of the well design and procedures or of any material change to the well design or procedures.

(10) For an existing well,—

(a) a diagram of the well; and

(b) a summary of earlier operations in relation to it; and

(c) the purposes for which it has been used; and

(d) its current operational state; and

(e) its state of repair; and

(f) the physical conditions within it; and

(g) its production capacity.

(11) For a well that is to be suspended,—

(a) the anticipated period for which suspension is required; and

(b) the method of suspension; and

(c) the details of any standards that have been applied; and

(d) if the well is situated offshore, whether any seabed equipment will project above the seabed and, if so, how it will be marked at the surface of the sea; and

(e) verification by an independent and competent person (as part of the well examination scheme) of the well suspension design and procedures.

(12) For a well that is to be abandoned,—

(a) a detailed programme of abandonment, indicating:

(i) the sequence of operations; and

(ii) the positions of cement or bridge plugs; and

(iii) the method of setting in place and testing the integrity of plugs; and

(iv) the details of any intention to recover casing, tubing, surface or down-hole equipment; and

(v) the details of any debris to be left in the hole, and the plans for surface or seabed restoration; and

(b) the details of any standards that have been applied; and

(c) verification by an independent and competent person (as part of the well examination scheme) of the well abandonment design and procedures.

Note: clause 13 is intentionally omitted.

GUIDANCE

You must notify WorkSafe at least 21 days before commencing well-drilling operations (regulation 66). Regulation 66 applies to the drilling, completion, suspension and abandonment of a well and the recommencement of drilling after a well has been completed, suspended or abandoned. The notification must contain the information set out in Schedule 8.

Schedule 8 of the Regulations covers specific notice requirements on well suspension and abandonment, completion or subsequent modification. As part of the well examination scheme the independent and competent person should examine any modification to an existing well that requires a design modification or redesign. Notify WorkSafe of this material change.

The following information applies to well abandonment and may apply to suspension:

NUMBER OF BARRIERS

Use two barriers to isolate 'permeable over-pressured' or 'reservoir exposed' intervals from the surface and one barrier to isolate 'permeable with normal pressure' or 'impermeable over-pressure' intervals from the surface.

CEMENTING

Conduct a cement squeeze in to the perforations before cement plugging a section of perforated casing.

PLUGS

Mechanical plugs aren't recommended unless using them to help set a foundation to reduce the risk of cement plugs failing. WorkSafe recommends using cement plugs of a minimum of 100 metres (m), extending at least 50 m above and below any source of inflow.

If using mechanical plugs, some of the main characteristics are:

> low permeability
> long term integrity
> resistance to down hole compounds
> suitable temperature and pressure mechanical properties
> non-shrinking
> bonding properties to casing and formation.

Cement plug length for shallow wells

When abandoning shallow wells less than 100 m total depth, cement the total depth to the surface, including cementing the surface and intermediate casings.

MORE INFORMATION

For more information on regulations 66 and 67 see WorkSafe's fact sheet Notifications Required by the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016.

Failure to comply with the notice requirements in Regulations 66 and 67 is an offence.

APPENDICES

APPENDIX A: MORE INFORMATION

New Zealand legislation

To access all legislation including Acts and regulations visit the New Zealand Legislation website: www.legislation.govt.nz

WorkSafe New Zealand

For information and guidance about health and safety or to contact the High Hazard Unit visit WorkSafe's website: www.worksafe.govt.nz or call 0800 030 040.

Guidance

Well Examination Guidelines
Petroleum Exploration and Production Association New Zealand (PEPANZ)

Introduction to the Health and Safety at Work Act 2015
WorkSafe New Zealand www.worksafe.govt.nz

Major Hazard Facilities: Emergency Planning
WorkSafe New Zealand www.worksafe.govt.nz

Major Hazard Facilities: Major Accident Prevention Policy and Safety Management Systems
WorkSafe New Zealand www.worksafe.govt.nz

Major Hazard Facilities: Safety Assessment
WorkSafe New Zealand www.worksafe.govt.nz

Major Hazard Facilities: Safety Cases
WorkSafe New Zealand www.worksafe.govt.nz

Notifications Required by the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016
WorkSafe New Zealand www.worksafe.govt.nz

Petroleum: Certificates of fitness and verification schemes for offshore installations
WorkSafe New Zealand www.worksafe.govt.nz

Petroleum: Major accident prevention policies and safety cases
WorkSafe New Zealand www.worksafe.govt.nz

Worker Engagement, Participation and Representation
WorkSafe New Zealand www.worksafe.govt.nz

APPENDIX B: GLOSSARY

TERM	EXPLANATION
Abandon	Defined in the Regulations, in relation to a well, means to seal the well to render it permanently inoperative (abandonment has a corresponding meaning).
Accepted safety case	A safety case which WorkSafe has accepted under regulation 28.
Accreditation	Defined in *ISO/IEC 17000 – Conformity assessment – Vocabulary and general principles* as third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.
Amended safety case	If WorkSafe has initially rejected a safety case or revised safety case under regulation 27, a permit operator or drilling contractor may amend the safety case and resubmit it for acceptance. This is an amended safety case.
Certificate of fitness	A certificate of fitness is one issued under the regulations by an inspection body in the format of Schedule 6 of the Regulations.
Combined operation	Defined in the Regulations, means an operation where two or more installations (other than lower-tier production installations) carry out a temporary operation concurrently at the same location or, in the case of an offshore installation, within 500 m of each other.
Completion	Completion enables the well to start producing petroleum.
Drilling contractor	Defined in the Regulations, means a PCBU who manages or controls a non-production installation. For the purposes of applying this definition in respect of any particular duty or requirement of a drilling contractor, the permit operator of the installation is to be treated as the drilling contractor if the permit operator has given written notice that the permit operator has elected to be treated as the drilling contractor to the person (or persons) who would otherwise be treated as the drilling contractor.
Emergency response plan	Defined in the Regulations, means a plan for responding to emergencies that occur while petroleum workers are working on or near an installation.
Independent and competent person	Defined when the meaning of regulation 4 (meaning of independent) and the meaning of 'competent person' in regulation 3 are combined.
Inspection body	An inspection body is a person or organisation recognised under regulation 42 as being able to inspect installations and issue certificates of fitness.
Installation	Defined in the Regulations, means a production installation or a non-production installation.
Lower-tier production installation	Defined in the Regulations, means an installation that is onshore, and has levels of petroleum production and petroleum stored at the installation below set limits.
Nominated address	Means a physical address in New Zealand nominated by the permit operator.
Non-production installation	Defined in the Regulations, means any vessel or structure that functions independently of a production installation and that is used or is intended to be used for drilling a well, but does not include any vessel or structure during mobilisation or demobilisation, or equipment solely used to drill a hole for conductor casing at an onshore well site.

TERM	EXPLANATION
Notifiable event	Defined in HSWA as: > the death of a person > a notifiable injury or illness > a notifiable incident.
Notifiable incident	Defined in HSWA, generally an unplanned or uncontrolled incident that immediately or imminently exposes workers or other people to a serious risk to health or safety. It must be reported to WorkSafe, or the relevant designated agency.
Offshore	Defined in the Regulations, means anywhere that is on the seaward side of the mean high-water mark.
Permit operator	Defined in the Regulations, means a PCBU who manages or controls a production installation or a well operation and to whom section 27 of the Crown Minerals Act 1991 applies. For the purposes of this definition, the person to whom section 27 of the Crown Minerals Act 1991 applies is to be treated as the person who manages or controls the production installation or the well operation, even if that person engages a contractor to perform some or all of that person's duties.
Production installation	Defined in the Regulations, means any vessel or structure and related aspects such as piping, plant and equipment to be used for extracting and initially processing petroleum, and the injection and recovery of gas from underground, but does not include equipment that extracts petroleum for well testing for less than 90 days.
Safety case	Defined in the Regulations, generally a written presentation of the technical, management and operational information covering the hazards and risks that may lead to a major accident at the installation, and their control. It provides justification for the measures taken to ensure the safe operation of the installation.
Safety management system (SMS)	Defined in the Regulations, generally a comprehensive integrated system for managing all aspects of risk control at an installation and used as the primary means of ensuring safe operation at the installation.
Safety-critical element	Defined in the Regulations, means any part of an installation or its plant (including a computer program): > that has the purpose of preventing, or limiting the effect of, a major accident; or > the failure of which could cause or contribute substantially to a major accident.
Secretary	Under the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999 was the Chief Executive of Ministry of Business, Innovation and Employment.
Significant modification	Defined in regulation 16, in relation to a major accident prevention policy, means any modification that is likely to increase the likelihood of a major accident occurring or increase the severity or extent of the harm arising from a major accident.
Suspend	Defined in the Regulations, in relation to a well, means to make the well temporarily inoperative (suspension has a corresponding meaning).
Verification scheme	Defined in regulation 47, means a written scheme to ensure that safety-critical elements are suitable and where already provided, remain in good repair and condition.
Well	Defined in the Regulations, means a borehole drilled to explore, appraise, or extract petroleum. It includes boreholes used for injection/rejection, down-hole, and top-of-the-well pressure-containing equipment.

TERM	EXPLANATION
Well examination scheme	Defined in regulation 64, means documented arrangements for the ongoing examination of the well such that, so far as is reasonably practicable, the well during its lifecycle will not have an unplanned escape of fluids or risk the health and safety of persons.
Well intervention operation	Defined in the Regulations, means an operation in which a well is re-entered for a purpose other than to continue drilling or to maintain or repair it.
Well operation(s)	Defined in the Regulations, means the drilling, completion, suspension, or abandonment of a well; including recommencing drilling after a well has been completed, suspended, or abandoned; and any other operation in relation to a well during which an accidental release of fluids from the well could give rise to the risk of a major accident.
Worker	Defined in HSWA, generally a person who carries out work in any capacity for a PCBU. It covers almost all working relationships, including employees, contractors, sub-contractors, and volunteer workers.
Worker representative	In relation to a worker, means: > the health and safety representative for the worker > a union representing the worker > any other person the worker authorises to represent them (eg community or church leaders, lawyers, occupational physicians, nurses, respected members of ethnic communities). Workers can ask a worker representative to raise health and safety issues with a PCBU on their behalf.
Workover operation	Defined in the Regulations, means an operation in which a well is re-entered for the purpose of maintaining or repairing it.

Notes

DISCLAIMER

WorkSafe New Zealand has made every effort to ensure the information contained in this publication is reliable, but makes no guarantee of its completeness. WorkSafe New Zealand may change the contents of this guideline at any time without notice.

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