

Department of Jobs,
Precincts and Regions

Maintenance requirements during the onshore petroleum moratorium

GUIDANCE NOTE FOR AUTHORITY HOLDERS UNDER
THE *PETROLEUM ACT 1998*

1 Background

1.1 Purpose of this guidance note

The purpose of this guidance note is to advise onshore petroleum authority holders of:

- their maintenance responsibilities under the Petroleum Act 1998 (the Act);
- best practice maintenance of onshore petroleum facilities;
- prohibited activities during the onshore petroleum moratorium; and
- the process for undertaking maintenance activities during the onshore petroleum moratorium.

1.2 Scope of this guidance note

The scope of this guidance note includes undertaking maintenance activities during the onshore petroleum moratorium.

2 Authority holders' maintenance responsibilities during the onshore petroleum moratorium

Section 17A of the Act sets out that under a relevant authority, the carrying out of petroleum exploration or petroleum production is not authorised during the moratorium period. However, section 17A(2) of the Act establishes that the moratorium does not affect any requirement or obligation imposed on the authority holder under this Act during the moratorium period.

Section 166 of the Act sets out that an authority holder must maintain in good condition and repair all structures, equipment and other property in the authority area that is used in connection with petroleum operations being carried out. Consequently, authority holders must undertake maintenance activities during the moratorium period.

3 Best practice maintenance of onshore petroleum facilities

3.1 Wellhead maintenance

Wellhead maintenance should ensure that:

- there are no wellhead leaks;
- pressure recordings are taken from all annuli and production conduits;
- bull plugs or blind flanges with needle valves are installed on all outlets;
- all valves are chained and locked or valve handles are removed; and
- flowlines are isolated from the wellhead.

3.2 Pressure testing seals

Pressure testing of seals is not required if well integrity can be proven.

The criteria for proving well integrity are that:

- a positive pressure test is achieved on the casing string of which the seals are isolating; and
- there is no evidence of failed seals based on the pressure in the intermediate casing string.

For wellheads that do not have adequate test ports, pressure tests may be omitted and visual and audible observation for leaks is acceptable. An explanatory note should be included in the annual report.

3.3 Signage and hazards

Signage should be installed to indicate:

- the well's surface location;
- the current authority holder;
- the current authority holder's emergency contact number; and
- appropriate warning symbols.

An appropriate area around the wellhead and ancillary equipment should be secured. The size of this area should be commensurate with the consequences of potential impacts to the wellhead.

Hazards associated with, but not limited to, pits, the rat hole and storage materials should be eliminated or minimised.

3.4 Visual inspection

A visual inspection of the lease and wellhead should be conducted at least yearly to observe wellhead integrity, weeds and other hazards.

3.5 Well classification and wellhead servicing frequency

Low maintenance well characteristics:

- The well has no perforations and is unable to self-flow; and
- did not encounter H₂S during drilling; and
- is cased; and
- has no or low pressure.

Servicing frequency should be at the time of suspension and then at least every three years.

Medium maintenance well characteristics:

- The well is able to self flow; and
- is cased; and
- has encountered H₂S during drilling; or
- has a wellhead pressure of less than 500psi.

Servicing frequency should be at the time of suspension and then once every two years.

High maintenance well characteristics:

- The well is able to self-flow; and
- is not cased; or
- the well is classified as a sour well; or
- the wellhead pressure is more than 500psi.

Servicing frequency should be at the time of suspension and then once every year.

4 Prohibited activities

4.1 Well testing

Well testing activities fall within the definition of petroleum exploration (definition included in section 7 of the Act) and are therefore not authorised during the moratorium period.

Maintenance activities must not involve well testing and must first be approved by Earth Resources Regulation.

5 The process for undertaking maintenance activities

If up-to-date maintenance details are not included in an accepted operation plan, authority holders must **vary an accepted operation plan and submit it**. The following regulations set out the information required to be included in an application to vary an accepted operation plan:

- Regulation 7(1)(a) of the Petroleum Regulations requires an operation plan to include details of the maintenance of the facility.
- Regulation 13(1)(c)(iii) requires the well operation management plan included in the operation plan to detail how modifications, maintenance and repairs to a well are to be managed: and
- Regulation 13(1)(d) requires the well operation management plan to identify the risks associated with the well activity and state how the holder of the authority proposes to eliminate or minimise those risks.

In order to satisfy the above regulatory requirements, the application to vary an accepted operation plan should include the information in sections **5.1, 5.2 and 5.3**.

5.1 Details of the facility's maintenance program

Authority holders are required to provide the following information for any maintenance activities (if it is not provided in an accepted operation plan):

- 5.1.1 Details of the entire maintenance program (i.e. activity, scope, objectives and timing/frequency) for all well components (not just valves) including:
 - a. wellhead/Christmas tree specifications, including pressure ratings, and the manufacturer's recommended servicing timelines; and
 - b. wellhead/Christmas tree maintenance logs (from installation of the wellhead/Christmas tree until the date of the submission of the operation plan variation).
- 5.1.2 Details/specifications of the equipment that will be used for maintenance activities including the design, installation and suitability (as a minimum) to carry out the proposed activities.
- 5.1.3 Proposals for the decommissioning of the equipment used for each maintenance activity.
- 5.1.4 Details of:
 - a. the well design philosophy and criteria for the design, construction, operational activity and management of the well and ancillary equipment;
 - b. the well design, including current well schematics;
 - c. proposed well barriers during the maintenance activities (including well barrier schematics);
 - d. the shut-in wellhead pressure and temperature;
 - e. the components to be tested on each wellhead (e.g. valves, seals);
 - f. the lengths and specifications of the casing and tubing installed;
 - g. the plugs and packers installed, and any that will be removed and/or re-installed as part of the proposed maintenance activities;
 - h. the formation pressure and temperature expectations;
 - i. the formation fluid data (e.g. gravity, density and composition); and

- j. the predicted flow rate for exhausting the volume within the wellbore, including the calculated expected volume, during maintenance activity.

5.2 Assessment of risk

Section 161(1)(a) of the Act requires that an operation plan must identify the risks that the operation may pose to the environment, members of the public, land or property in the vicinity of the operation and to any petroleum, source of petroleum or reservoir that the operation might affect.

Requirements under section 161(1)(a) and (b) include setting out the risks posed by undertaking maintenance activities. If authority holders have not included this information in an accepted operation plan, they will need to vary an accepted operation plan submit it.

Authority holders' risk assessment of maintenance activities should identify the following:

- hazards (the sources of potential risks);
- the potential impacts of the hazard; and
- the likelihood of the hazard occurring.

Hazards that authority holders should identify, at a minimum, include the following:

- 5.2.1 The loss of containment (both at surface and subsurface).
- 5.2.2 Significant volumes of fluids being produced.
- 5.2.3 Hazards that could result in soil erosion, soil contamination or damage to flora and fauna.
- 5.2.4 Hazards resulting in excessive noise.
- 5.2.5 Hazards resulting in emissions to air.
- 5.2.6 Hazards resulting in fire (i.e. the potential for fire caused by maintenance activities).

Risk assessments of the hazards identified should take into consideration the following:

- Christmas tree / wellhead integrity.
- Aquifers that were encountered when the well was drilled.
- Cement integrity.
- Cement plug locations.
- Tubing integrity.
- Annulus pressure validation.
- Well barrier analysis.

Note – risk assessments must consider the risks that the activities may pose to the environment, members of the public (i.e. landowners and the neighbouring community, not employees or contractors), land or property in the vicinity of the operation and to any petroleum, source of petroleum or reservoir that the operation might affect. Risk to the health and safety of employees/contractors, or scheduling, and their controls are not relevant for an operation plan. The Act does not require this information and the information is not within its jurisdiction. Health and safety risks are regulated by WorkSafe under the *Occupational Health and Safety Act 2004*.

5.3 Risk controls (management)

Section 161(1)(b) of the Act requires that an operation plan must specify what will be done to eliminate or minimise those risks. This requirement applies to all activities described in operation plans. Authority holders must provide details of the following mitigation measures:

- 5.3.1 Controls to manage the risk of loss of containment (e.g. well control arrangements), including well schematics.
- 5.3.2 Controls to manage the risk of any significant volumes of fluids being produced when carrying out any maintenance activities.
- 5.3.3 Controls to manage the other impacts from maintenance activities (e.g. noise, light, soil erosion, soil contamination, fire, all of which may impact landowners, the community, flora and fauna), if they will be different to those specified in the accepted operation plans.
- 5.3.4 Management of any foreseeable but unplanned activities. Include descriptions of what will occur if any unexpected (but foreseeable) circumstances arise and how they will be managed.
- 5.3.5 The chain of command for maintenance activities, and officers' full roles and responsibilities, if the contractors/service companies to carry out the maintenance activities will be different than those described in the accepted operation plan.
- 5.3.6 Include details of the key personnel involved in the design of the maintenance activities.
- 5.3.7 The well control training (e.g. training certified under the International Well Control Forum) for maintenance activities, if the contractors/service companies to carry out the maintenance activities will be different than those described in the accepted operation plan.
- 5.3.8 The approach to ensure that all personnel involved in maintenance activities have the appropriate skills and training.
- 5.3.9 Updated Emergency Response Plan.
- 5.3.10 Details of the emergency response equipment to deal with any well integrity hazard.
- 5.3.11 Management of the well after completion of the maintenance activities.
- 5.3.12 Details of how wellhead pressure will be monitored.
- 5.3.13 Details of how well annulus pressure will be managed.
- 5.3.14 Details regarding annular or packer fluids monitoring, and top-up.
- 5.3.15 The procedure for suspension, if the well will be suspended after maintenance activities, and well barrier diagrams for suspending the well.
- 5.3.16 If the well will not be suspended after maintenance activities, the well barrier diagram after the completion of the maintenance activities.
- 5.3.17 Updated information of any consultation that has occurred with the landowners, interested people and organisations setting out how any issues raised will be, or have been, addressed.
- 5.3.18 Details of any remediation works that may need to be carried out if the results of maintenance activities find unacceptable outcomes (e.g. leak remediation).

Example of a template for risk assessment and management of maintenance activities:

Hazard (source of risk)	Potential Impact	Likelihood	Consequence	Controls (to reduce risk)

6 Contacting Earth Resources Regulation

You may contact Earth Resources Regulation via email at: workplan.approvals@ecodev.vic.gov.au or via phone on 1300 366 356 (between 9am and 4.30pm Monday to Friday).

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