

Petroleum Production and Storage Testing Guideline

A guide to production testing and storage testing under the *Petroleum and Gas (Production and Safety) Act 2004*

This publication has been compiled by Regulatory Support and Performance, Georesources Division, Department of Resources.

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1 About this guideline

This guideline includes information about the requirements for notification and reporting, regarding production and storage testing, relating to petroleum and gas tenures in Queensland.

This guideline relates to the following Acts:

- *Environmental Protection Act 1994* (EP Act)
- *Petroleum Act 1923* (1923 Act),
- *Petroleum and Gas (Production and Safety) Act 2004* (P&G Act),
- Petroleum and Gas (General Provisions) Regulation 2017 (P&G Regulation),
- Petroleum and Gas (Royalty) Regulation 2004 (Royalty Regulation), and the
- *Greenhouse Gas Storage Act 2009* (GGSA)

2 Background

2.1 Production testing

Production testing is an activity that allows the holder of authority to prospect (ATP) or petroleum lease (PL) to evaluate the petroleum productivity of a well by means of a flow test. It can occur during the drilling of a well (e.g. drill stem tests) or after a well has been completed. For the purposes of this guideline and for legislation in Queensland, production testing or extended production testing refers to evaluating the productivity of a well for an extended period after the well has been completed.

Production testing authorisation is required when the petroleum well is on an ATP where the holder is not entitled to undertake production or when a PL holder is establishing a new well and is undertaking testing prior to joining to their network.

An ATP holder may carry out the following activities¹:

- Exploring for petroleum,
- Testing for petroleum production
- Evaluating the feasibility of petroleum production,
- Evaluating reservoirs for underground storage,
- Plugging and abandoning or otherwise remediating a well or bore.

An ATP holder is not entitled to produce petroleum and is required to apply for a PL to commercialise the petroleum.

A PL holder may carry out the following activities²:

- Exploring for petroleum,
- Testing for petroleum production
- Evaluating the feasibility of petroleum production,
- Evaluating reservoirs for underground storage,
- Petroleum production
- Evaluating, developing and using underground storage
- Plugging and abandoning or otherwise remediating a well or bore.

¹ Section 32 P&G Act

² Section 109 P&G Act

2.2 Storage Testing

Storage testing is an activity that allows the holder to evaluate the potential of a natural underground reservoir to store fluids through injection. For the purposes of this practice direction, storage testing refers to evaluating the potential for hydrocarbon gas in a depleted conventional reservoir to assist larger field petroleum production. Note that injection of any other fluids into a natural underground reservoir are covered under the GGSA.

3 Tenure holder requirements

3.1 Notification and approval requirements

Holders are required to notify the department for each stage when drilling a well or bore, including production testing and to request approval if further production testing is required.

Notification steps include:

1. Notice of intention to drill a well or bore (at least 10 days before drilling starts) - Complete online form in the [GSQ Lodgement Portal](#)
2. Notice about commencement of production/storage testing (within 20 business days after the testing starts) - Submit online form in [MyMinesOnline](#)
3. Request for approval for approval for production testing (1923 Act) or approve further testing after the end date for the testing (P&G Act) – complete [form](#) PM 2/2013.
4. Notice about stopping production/storage testing (within 20 business days after the testing stops), Submit online form in [MyMinesOnline](#)
5. Notice of completion, alteration, or abandonment of petroleum well or bore (lodge within 10 business days after the event happens) - Complete online form in the [GSQ Lodgement Portal](#).

3.2 Initial production testing period

An ATP or PL holder may carry out testing for petroleum production for a petroleum well or bore (production testing) within the area of the authority or lease³. Notification of the commencement of the production/storage testing must be submitted to the department within 20 business days.

Production testing can be carried out for a period of:

- (a) 13 months for a petroleum well that intersects with a natural underground reservoir containing coal seam gas, shale gas, tight gas or basin centred gas and the testing relates to the petroleum produced from the reservoir,
- (b) otherwise only for 6 months.

Or for an extension of approved by the Minister.

3.3 Extension of production testing period

The Minister may, at any time, approve the carrying out of production testing (the original production testing) after the end date for further production testing. The approval may be subject to the conditions the Minister considers appropriate⁴.

A holder may apply to extend the period of production testing by lodging an application in the approved form through MyMinesOnline. The Form [PM 2/2013](#) provides for the basic information required by the Department to notify or request an extension of production testing. This includes:

- The tenure type and number

³ Section 71A(1), 150A P&G Act

⁴ Sections 71A(3), 150APL(3) P&G Act

- Petroleum well identifying names and numbers (e.g. Reids Dome 2)
- The estimated duration and commencement date for the period of production testing
- Reservoir description, including depth and any planned stimulation and reservoir properties
- Summary of any previous periods of production testing for the well
- Rationale regarding periods of further testing required
- Details regarding the use or disposal of any gas produced during testing
- Rationale and evidence regarding the decision to continue ATP production testing and an outline of plans to progress production testing to PL application over the area

Additional information to be provided in a separate attachment to the application, includes:

- Time-series data, at monthly intervals, or daily intervals if production testing duration is less than 3 months, of the well production rates and pressures over the full extent of any testing conducted on the well.
- Ranges in production forecasts including Min-Mean-Max and/or P10/P50/P90 may be requested.
- Discussion regarding issues with the current period of well production testing and activities planned to address these issues in future
- Reservoir description including formation top and base depth, reservoir lithology, petrophysical section showing perforated zones, net pay or net coal (if applicable)

Additionally, for production storage testing the following information should be included:

- The substance or substance or substances used for PL storage testing (e.g. air, natural gas, gas condensate, oil, water)
- The original commodity and reservoir type
- The estimated porosity and compressibility of the reservoir interval
- Where reservoir depletion has occurred, the initial pressure, current pressure, calculated original petroleum in place and total volumes of oil, gas and water produced from the reservoir interval

3.4 At the end of a testing period

For holders of a P&G Act resource authority, a Production Testing Report is required to be lodged within 60 business days after the relevant testing period ends. The relevant testing period means⁵:

- The end day,
- The last day of the testing, or
- If the production testing is carried out after the end day with the Minister's approval—the period starting on the day after the end day and ending on the last day the testing is carried out.

Holders of a 1923 Act resource authority must lodge a report within 40 business days after the testing ends⁶.

Section 44 of the P&G Regulation provides the information required in this report. Additional detail regarding the contents (e.g. expected data formats) of this report can be found in the [Petroleum and Gas Reporting Practice Direction](#). This should be submitted through the [GSQ Lodgement Portal](#) and follow the formats outlined in the Petroleum and Gas Reporting Practice Direction.

⁵ Section 44 P&G Reg

⁶ Section 75X 1923 Act

4 Other Matters

4.1 Using produced petroleum or gas

The department's position is that petroleum or gas produced during production testing is utilised in some way, other than flaring or venting. The accepted hierarchy of use for gas released during production testing is:

1. Commercialisation, if feasible. For example, by connecting the well to a nearby gathering network for shipment to the domestic market or an export terminal.
2. Flaring if surface facilities are not available due to not yet being commercially feasible.
3. Non-commercial petroleum, whether vented or flared, must be reported to the National Pollutant Inventory: <http://www.npi.gov.au/resource/national-pollutant-inventory-guide>

If a holder is conducting production testing for liquid hydrocarbons, the holder should advise in their application the intended method for storage of produced liquid hydrocarbons and indicate whether this will be sold during the period of testing.

4.2 Venting and Flaring

A holder must not flare or vent petroleum in a gaseous state produced under the authority unless the flaring or venting is authorised⁷.

Flaring the gas is authorised if it is not commercially or technically feasible to use it—

- commercially under the authority; or
- for an authorised activity for the authority.

Venting the gas is authorised if—

- it is not safe to use the gas for a purpose mentioned in subsection (2)(a) or (b) or to flare it; or
- flaring it is not technically practicable.

4.3 Royalties payable to the State

If the petroleum or gas produced during production testing is commercialised, royalty is payable to the State under Chapter 6 of the P&G Act.⁸ Current royalty rates can be found in Chapter 6 of the Royalty Regulation.

The Department of Treasury is responsible for administering the State's royalties. Information about how to calculate royalty or how to pay royalty should be made to that department.

4.3.1 Exemption from royalty

For a well where flaring or venting of the gas is used, no royalty is payable to the State, unless the amount of gas that has been flared or vented exceeds 3,000,000 m³. This volume is cumulative across the sum of all periods of production testing for a well⁹.

4.4 Environmental responsibilities

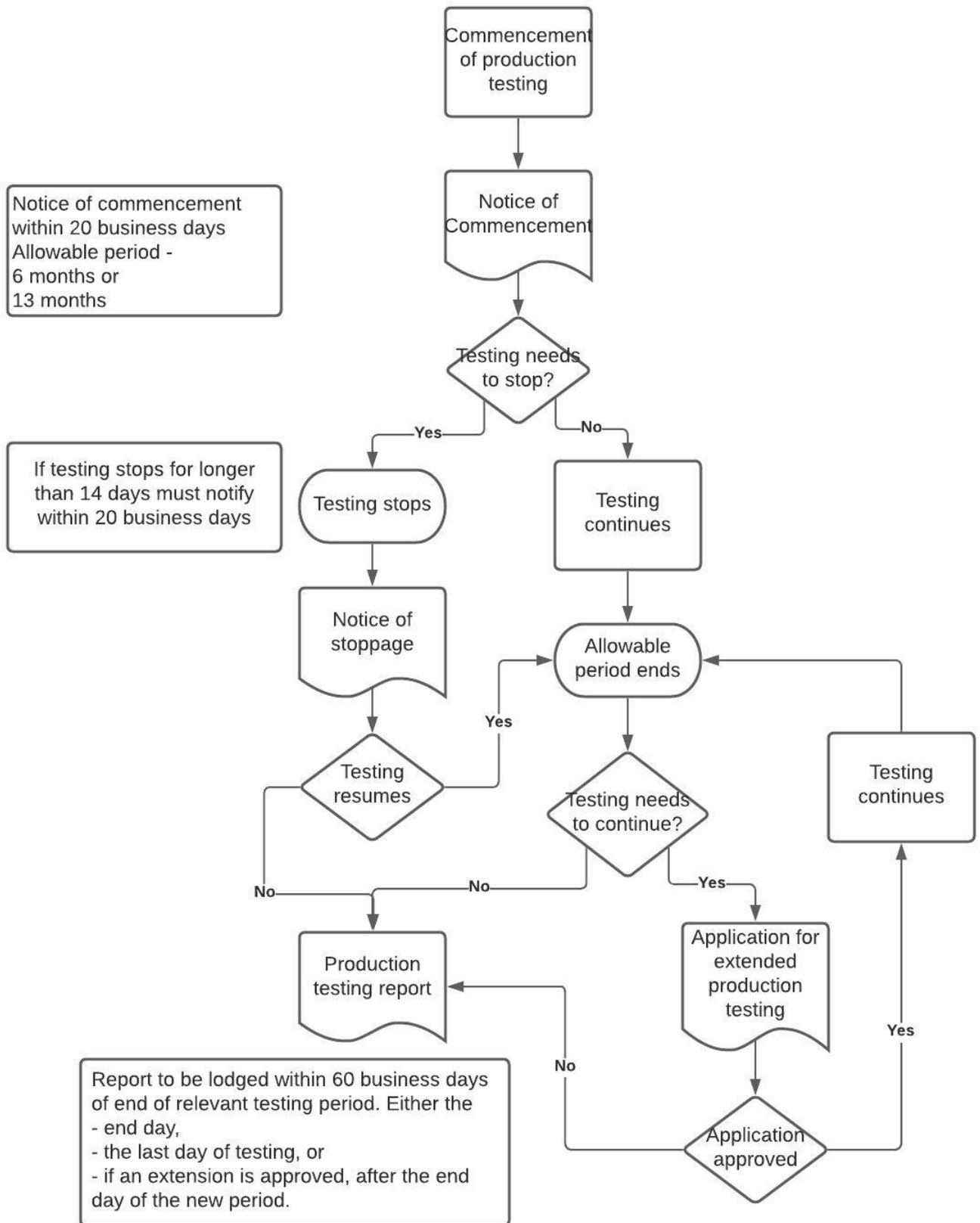
During production testing, holders must comply with the EP Act and any environmental authority provisions issued by the Department of Environment and Science. Further information about these responsibilities can be found here: [Department of Environment and Science](#).

⁷ Sections 72(1), 151 P&G Act

⁸ Section 75, 155 P&G Act.

⁹ Section 591A P&G Act

5 Diagram – Production testing workflow



6 Document information

Availability and location: External – Business Industry Portal

Owner and approver: Director, Georesources Policy Division

Review date: March 2023

Related documents: PD6 Petroleum and Gas Reporting Practice Direction,

Contacts: For help and information about this policy, please contact:

Petroleum Assessment Hub on (07) 3199 8118 or email

petroleumhub@resources.qld.gov.au.

For technical support please contact the MinesOnline Helpdesk on +61 7 3199 8133 or email mines_online@resources.qld.gov.au 8:30 – 4:30 Monday – Friday (excluding public holidays)