Coexistence Queensland

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

UQ Gas & Energy Transition Research Centre

Tight gas and oil: what to expect during decommissioning and rehabilitation

What is decommissioning?

Decommissioning is the permanent closure, sealing and rehabilitation of a gas or oil well or entire field and its associated infrastructure. This process ensures it remains safe, environmentally contained and suitable for most future land use after gas or oil production ends. It is a legal requirement that all petroleum and gas wells in Queensland are decommissioned according to strict protocols.

This is regardless of whether the wells were purely for exploration or those at the end of a long producing life. The cost of decommissioning is the responsibility of the resource company.

When decommissioning occurs

Well decommissioning can occur at any stage of the gas or oil production life cycle, from exploration to those at the end of a long producing life. If a company decides to not proceed with a well it must be properly decommissioned and the site rehabilitated.

Wells may also be decommissioned during an operating project if they are no longer needed by the company. Producing wells are typically decommissioned when gas or oil flow declines below commercial levels, which is generally 20 to 30 years after first production.

What well decommissioning involves

Decommissioning permanently seals the wellbore against any movement of fluids between underground formations, blocking any pathways where gas or fluids could reach the surface or move upwards.

Cement plugs and mechanical devices are placed across the targeted formation zone that produced the gas. In tight gas and oil, this is at depth. Further cement plugs are set at intervals up through the wellbore, including across any aquifers that were penetrated during drilling.

Once sealing is complete, the wellhead and surface piping are removed. The casing is cut approximately 1.5 metres below ground level, capped with a steel plate and marked on the surface so the well location can be identified in future. This may impact some potential future land uses, although no infrastructure remains visible above ground.

The Queensland Code of Practice for the Construction and Abandonment of Petroleum Wells and Associated Bores, administered by the Petroleum and Gas Inspectorate within Resources Safety and Health Queensland (RSHQ), sets mandatory minimum standards for all decommissioning work.

What rehabilitation involves

Surface rehabilitation means removing aboveground infrastructure (unless the landholder agrees it can remain) and restoring the land to a condition suitable for its previous use. This rehabilitation occurs in two distinct stages: interim rehabilitation and final rehabilitation.

Interim rehabilitation occurs progressively during gas development. This can include backfilling trenches, holes, and open excavations; re-spreading topsoil, installing erosion and sediment controls; and re-seeding for vegetation establishment. Final rehabilitation then occurs once the well has been decommissioned.

This includes removing all above-ground equipment, structures and tanks; regrading the well pad to match surrounding topography; revegetating disturbed areas with locally appropriate species; and removing or rehabilitating access tracks, unless the landholder has agreed they should remain and any necessary approvals have been obtained.

The Environmental Authority sets out the standard of the rehabilitation and the end use of the land required after rehabilitation. Final rehabilitation must at least ensure that:

- Affected areas are stable
- Surface drainage lines are re-established
- Topsoil is reinstated
- Vegetation is regenerated

Progressive rehabilitation, restoring areas as soon as, or within 12 months of when they are no longer actively needed, is encouraged and may be required under EA conditions.

Who is responsible and how it is assured

The operating resource company is responsible for decommissioning and rehabilitation. The company must also receive regulatory sign-off that confirms the work has been completed to the required standard. The company’s financial obligations remain in place until this sign-off is received.

Resource companies holding an Environmental Authority (EA) for a resource activity are required to participate in Queensland's Financial Provisioning Scheme, established under the *Mineral and Energy Resources (Financial Provisioning) Act 2018.* Under the scheme, companies make either upfront or annual financial contributions that covers their estimated rehabilitation costs.

Landholder rights

The EA includes provisions specifying the rehabilitation standards the company must meet on the property. These are binding commitments. Landholders can monitor rehabilitation and raise concerns with the operator, with either the Department of the Environment, Tourism, Science and Innovation or Resources Safety & Health Queensland.

Where rehabilitation is deemed not to standard, remedies may be pursued through dispute resolution or the Land Court. Compensation claims may also be made if rehabilitated areas do not return to productive use within a reasonable time.

Where can I find out more?

Contact Coexistence Queensland on 1300 548 021 or visit www.cqld.org.au.

Useful resources

- Coexistence Queensland tight gas and oil factsheet series
- Resources for landholders, Coexistence Queensland
- Queensland Government Taroom Trough Development Plan
- About CCAs and MGAs, Land Access Ombudsman
- The Gas Guide, Coexistence Queensland