

Fact sheet

Rehabilitation of exploration, mining and petroleum operations

November 2022

Rehabilitation of exploration, mining and petroleum operations¹

The NSW Government imposes strict conditions on exploration licences², mining leases and production leases to ensure disturbed land is left in a safe and stable condition and that local communities are not unduly affected. Rehabilitation of affected land occurs progressively and in phases during operations and includes a range of activities such as:

- demolition and removal of infrastructure
- sealing mine entrances, shafts, boreholes and petroleum wells
- remediating contaminated land
- capping tailings dams
- geotechnical stabilisation
- making safe infrastructure and buildings that may be retained for a future beneficial reuse, including heritage buildings
- groundwater and surface water treatment
- establishing a final landform
- landscaping and revegetation.

What is rehabilitation?

The *Mining Act 1992* and *Petroleum (Onshore) Regulation 2016* define rehabilitation as ‘the treatment or management of disturbed land or water for the purpose of establishing a safe and stable environment’.

The NSW Government encourages the safe and sustainable development of the state’s natural resources and imposes strict conditions on the holders of exploration licences, mining and petroleum production leases to ensure the environment and people of NSW are not unduly affected as a result of their operations. Rehabilitation of impacted land is essential and an integral consideration throughout the entire exploration, mining and petroleum production cycle.

¹ The NSW Environment Protection Authority is the lead regulator for onshore gas/petroleum activities under the NSW Gas Plan (refer www.epa.nsw.gov.au)

² Reference to ‘exploration licences’ includes all forms of prospecting authorities under the *Mining Act 1992* and petroleum titles under the *Petroleum (Onshore) Act 1991*, including assessment leases.

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Key points

- exploration, mining and petroleum production approvals contain conditions requiring rehabilitation of disturbed land and water to ensure the final landform and land use(s) are safe and usable for future generations.
- holders of exploration licences, mining leases and petroleum production leases must lodge security bonds with the NSW Government to cover the full cost of rehabilitation. The total bond held across the state as at November 2022 is approximately \$3.5 billion.
- rehabilitation obligations transfer to the new owner if a mine / petroleum operation is sold or ownership transferred.
- holders of mining and petroleum production leases are required to prepare and implement Rehabilitation Management Plans. Landholders and the community are consulted when preparing Rehabilitation Management Plans.
- historic mining and petroleum issues are dealt with under the NSW Government's Legacy Mines Program.

Rehabilitation of exploration activities

During exploration, the NSW Resources Regulator ensures, through its approval and compliance processes, that rehabilitation returns disturbed land to a condition that is safe and stable. Rehabilitation is regulated through the conditions of the exploration licence and the conditions of any exploration activity approval granted by the NSW Resources Regulator. The final condition of the land is required to be as good, or better, than it was before exploration activities.

Rehabilitation of mining and petroleum operations

Rehabilitation commitments for mining and petroleum production operations are established as part of the development consent issued under the *Environment Planning and Assessment Act 1979* (as approved by the relevant development consent authority such as the Minister for Planning, the Independent Planning Commission or a local council).

Rehabilitation commitments to ensure the approved final land use(s) is achieved are then included in the mining / production lease issued under the *Mining Act 1992*³ / *Petroleum (Onshore) Act 1991* (as relevant).

Conditions and controls

All exploration licences, mining leases and production leases contain specific conditions requiring rehabilitation. Licence and lease holders are required to comply with these conditions as well as the statutory requirements set out in the *Mining Act 1992* / *Petroleum (Onshore) Act 1991*. This includes:

- complying with the conditions of the approvals granted (i.e. the exploration activity approval⁴ granted by the NSW Resources Regulator or the development consent⁵ granted for mining / petroleum operations by the relevant consent authority).
- complying with the *Exploration Code of Practice: Rehabilitation, Exploration Code of Practice: Environmental Management, Exploration Code of Practice: Produced Water Management, Storage*

³ Standard conditions are imposed on mining leases pursuant to Schedule 8A in the Mining Regulation 2016.

⁴ Refer to sections 23A and 44A of the *Mining Act 1992* and sections 31A and 36A of the *Petroleum (Onshore) Act 1991*.

⁵ Refer to Part 4 of the *Environmental Planning and Assessment Act, 1979*

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and Transfer and Exploration Code of Practice: Community Consultation (exploration licences only).

- preparing, and submitting for approval, rehabilitation objectives, rehabilitation completion criteria and (for large mines⁶) a final landform and rehabilitation plan.
- preparing and implementing a rehabilitation management plan (higher-risk prospecting operations⁷, large mines and petroleum production operations only).
- undertaking rehabilitation of land and water as soon as reasonably practicable after disturbance occurs.
- ensuring that rehabilitation achieves the final land use as set out in the rehabilitation objectives, the rehabilitation completion criteria and (for large mines and petroleum production operations) the final landform and rehabilitation plan.
- lodging a security bond that covers the full cost of rehabilitation in the event that the holder of the exploration licence / mining / production lease defaults on their rehabilitation obligations.
- annual reporting on the performance of rehabilitation activities against the rehabilitation commitments.
- permitting access by government compliance officers to inspect rehabilitation.

Progressive rehabilitation is supported by the partial release of the security deposit if successful rehabilitation is demonstrated. If the rehabilitation obligations have not been met to the satisfaction of the Minister, then part or all of the security deposit will be retained until obligations are met.

Rehabilitation obligations, including the security debt, transfer to the new owner in the event a mine / petroleum operation is sold, or ownership transferred.

Final voids

To address the issue of final voids, mines are required to present final landform options in the Environmental Impact Statement that accompanies their development application under the *Environmental Planning and Assessment Act 1979*. Proponents need to justify that the proposed design is safe, feasible and environmentally stable.

Options for backfilling, partial backfilling, reshaping and void configuration (shape) are included. The primary aim is to minimise potential sterilisation of post-mining land. This information is used by development consent authorities as part of a 'triple bottom line assessment', when determining whether to approve or refuse a proposed mining operation. This assessment integrates relevant economic, environmental and social considerations in the decision making process.

Mine operators often develop innovative solutions to rehabilitate final voids, and former mines have been adapted for tourism, agricultural and ecological uses.

The security bond held by the NSW Government covers the approved final land use as approved in the development consent. If the approved final land use includes a final void, then the security bond does not cover the back-filling of the void.

⁶ Large mines are those which have an Environment Protection Licence under the *Protection of the Environment Operations Act 1997*.

⁷ Includes any of the following exploration activities (excluding geological mapping and airborne surveys):

- excavations or bulk sampling in excess of 60 cubic metres
- prospecting operation resulting in a cumulative surface disturbance exceeding a total of 5 hectares within the prospecting title area, and
- construction and use of petroleum wells, including associated water management, gas gathering and pipeline infrastructure

Legacy mines program

Unfortunately, mine and petroleum well rehabilitation was not always a consideration during historic operations. In 1974, the NSW Government established the Derelict Mines Program to address legacy mine issues (now known as the Legacy Mines Program).

Legacy mines are former mine / petroleum sites requiring remediation where no individual or company can be held responsible for its management or remediation. Generally speaking, the responsibility for legacy mines lies with the landowner although support is provided through the Legacy Mines Program.

Modern regulation, including the requirement to lodge a security bond, means that mine / petroleum operators are responsible for their own rehabilitation works.

The primary objectives of the Legacy Mines Program are to:

- reduce or eliminate risks to public health and safety
- reduce impacts on the environment
- stabilise and prevent further degradation of legacy mine sites
- remove or contain contamination at its source and prevent it from spreading.

The secondary objectives are to:

- improve public confidence in the mining industry and its regulation
- optimise beneficial reuse of legacy mine sites
- encourage native plant and animal life
- conserve items of significant heritage value
- improve visual amenity.

Further information

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