

# ***SOUTH AUSTRALIAN MINING ACT (1971)*** ***ENVIRONMENTAL APPROVALS***



Prominent Hill Copper Gold Mine , 2011

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[www.minerals.pir.sa.gov.au](http://www.minerals.pir.sa.gov.au)

# Outline

- Regulatory Approach
- Legislative framework
- Lease assessment
- Activity approvals
- Bonds and security
- Other legislative approvals
- Compliance

Honeymoon Uranium Mine, 2011



# ***Regulatory Approach***

## **Performance - based regulation ...**

DMITRE as South Australia's lead mining approvals & regulation agency has adopted a performance-based or outcome-based regulatory approach and has moved away from prescriptive regulation and conditioning





# Regulatory Principles

DMITRE believes regulatory processes should be:

- Fair, equitable, consistent
- Transparent
- Predictable
- Practical
- Adaptable
- Efficient
- Inclusive
- Objective (science based – rational)

**Minerals Resources Division**  
Primary Industries and Resources SA



JULY 2011

## Regulating mineral exploration and mining in South Australia

### Setting the framework for best practice regulation

South Australia possesses a wealth of minerals which are vested in the Crown.

Primary Industries and Resources SA (PIRSA), through the Minerals and Energy Resources Group is the state's economic development agency responsible for the administration and management of mineral resources and regulation of South Australia's mineral exploration and mining sectors. PIRSA is committed to the principles of effective and efficient regulation outlined in the following Policy Statement.

The Government of South Australia is encouraging the development of our mineral resources under *South Australia's Strategic Plan (SASP)* – Key Objective 1: *Growing Prosperity* which sets targets for mineral resource exploration, production and processing. The Plan recognises the importance of our resources sector in growing the state's future economic prosperity through increased business investment, regional development and opportunities for employment and skilling, balanced against key environmental and social objectives.

The broad-scale benefits achieved through the development of our mineral resources will also substantially contribute to the other SASP Key Objectives: *Improving Wellbeing, Attaining Sustainability, Fostering Creativity and Innovation, Building Communities and Expanding Opportunity*.

Best practice management of South Australia's mineral assets, including streamlined regulation of exploration and mining activities, attracts investment that delivers outcomes of sustainable benefit and prosperity.

PIRSA recognises that the exploration and mining sectors require predictable procedures for access to land, security of exploration and/or mining tenure and predictable regulatory processes, in order to commit to higher risks for investment in mineral resource exploration, new mine development and life-of-mine operations.

Exploration and mining companies may need to achieve a social licence to operate from the community as part of establishing effective long term working relationships with all stakeholders. In this case, community confidence in the industry's overall performance and a demonstrated commitment by companies to best practice environmental management is paramount. PIRSA recognises that community confidence will only be gained where industry and the community work together cooperatively and openly in good faith to develop and achieve mutually acceptable outcomes.

#### South Australia's mining legislation administered by PIRSA

The following South Australian legislation is administered by PIRSA on behalf of the Minister for Mineral Resources Development:

- *Mining Act 1971*
- *Mines and Works Inspection Act 1920*
- *Roxby Downs (Indenture Ratification) Act 1982*
- *Broken Hill Proprietary Company's Indenture Act 1937*
- *Opal Mining Act 1995*
- *Whyalla Steel Works Act 1958*
- *Offshore Minerals Act 2000*

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# ***Key features of performance based approach***

- Adaptable to individual mines sites to ensure “fit for purpose” regulation
- Focus on *what* should be achieved (outcomes) not *how* it should be achieved – only outcomes and measurement criteria are approved
- Stakeholder input critical to setting outcomes
- Prescription justified only in particular cases
- Assess capability to achieve outcomes (management systems)



# ***Performance based regulation satisfies principles***

## **For Miner:**

- Fair, Adaptable, practical, efficient and predictable— can choose most cost effective method, as long as outcome is achieved

## **For Community:**

- Inclusive, predictable and transparent – clear outcomes negotiated and achievement can be demonstrated to stakeholders – builds trust

## **For Government:**

- Ensures responsibility is with miner, not government - minimises government liability,
- Efficient – minimises use of government resources
- Maintains **social licence to operate** (access to land) – community acceptance of mining



***Before July 2011, The Mining Act (1971) was like an old Holden...***



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# ***Mining Act , 1971***

- Act amended 1 July 2011
- Most extensive changes to environmental regulation for mining since 1971
- **New regulations** introduced
- Embeds performance based regulatory approach
- New compliance tools
- Applies to all mining and exploration activities
- Clearly specified definition of **environment**





# *Environment*

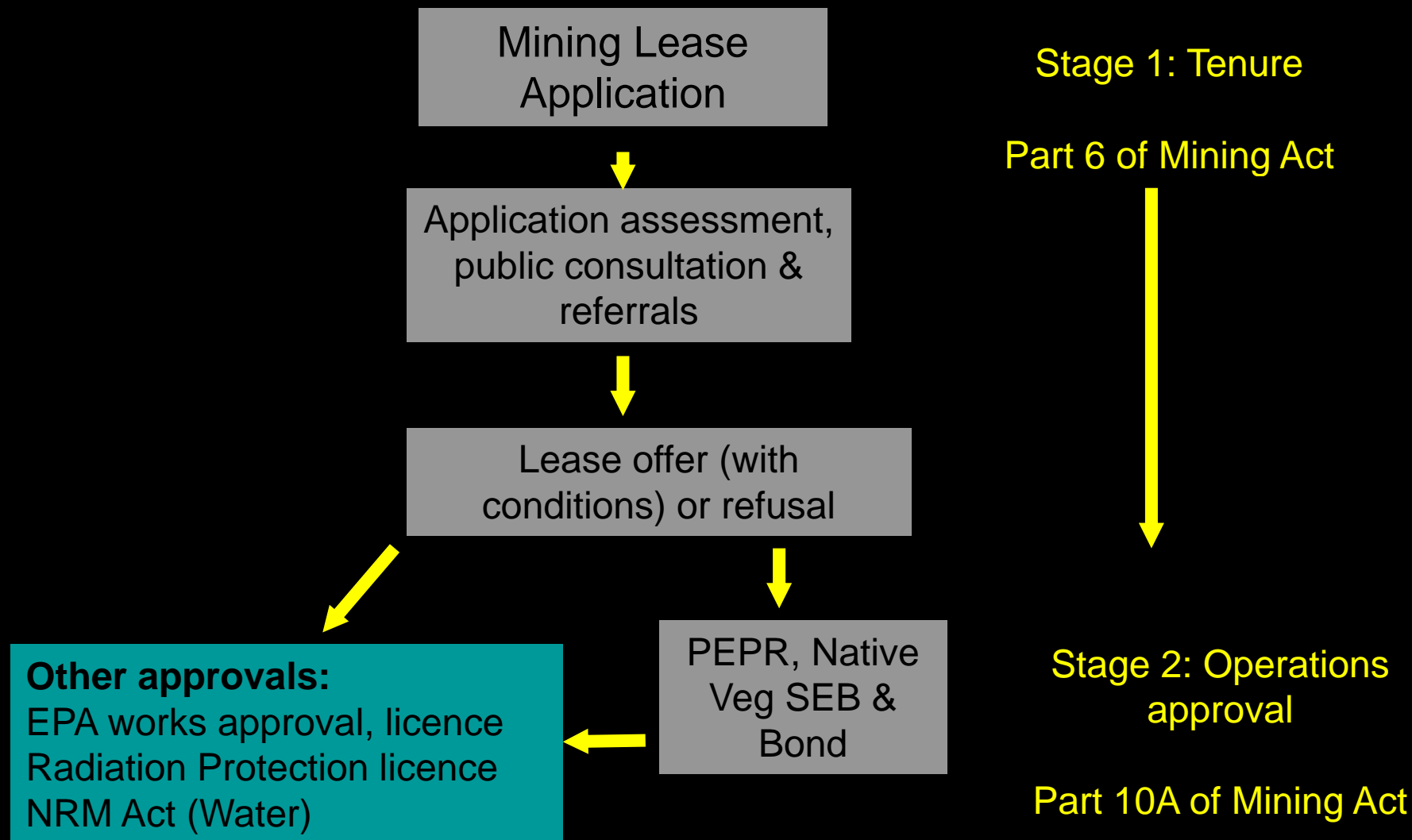
Section 6 (4) "environment" includes:

- *Land, air water (including both surface and sea water), organisms, ecosystems, native fauna and other features or elements of the natural environment; and*
- *Buildings structures and other forms of infrastructure and cultural artefacts; and*
- *Existing or permissible land use\**
- *Public health safety or amenity*
- *The geological heritage values of and area\*; and'*
- *The aesthetic or cultural values of an area*

*\* As at time of tenement grant*



# Legislative process for environmental approvals



# *Legislative framework*

## Stage 1: Tenure

- Mining proposal or management plan required with application for mining tenure
- Application is publicly advertised for comment
- Other government departments also consulted
- Environmental conditions (outcomes) imposed if tenement is granted



# ***Mining Proposal***

Content of Mining Proposal must comply with:

- Section 35(1) – Application for Lease
- Regulation 30
- Any Minister's Determination\* under Regulation 30(3)

**\*Determinations under development – but are likely to include specific requirements for metallic mines, extractives and uranium**





# ***Mining Proposal***

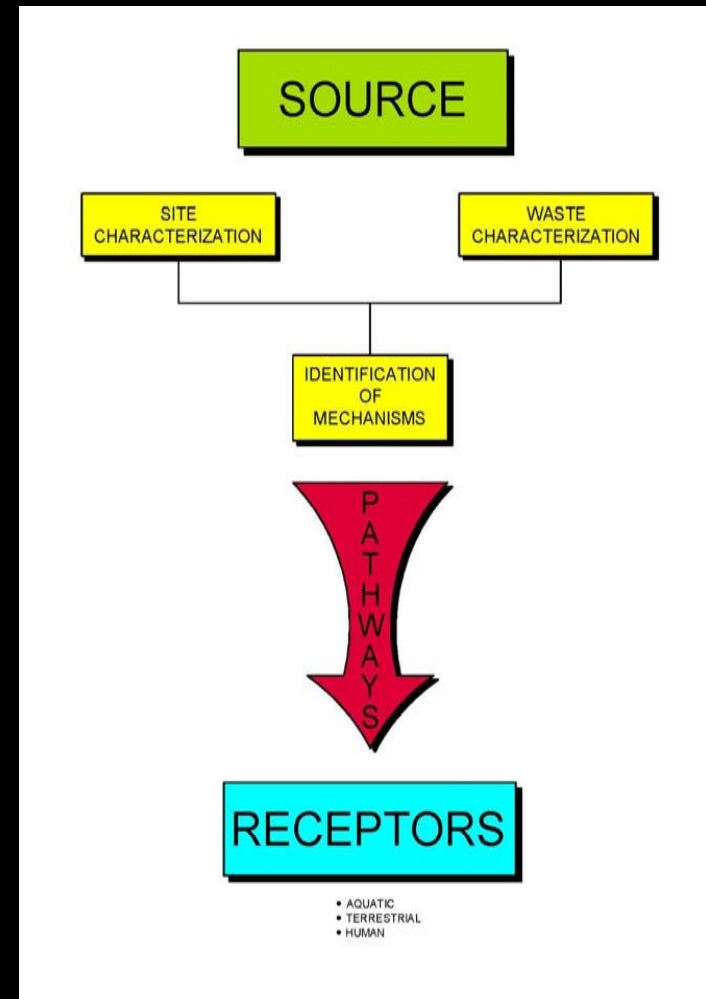
Content of Mining proposal must include:

- Assessment of environmental **impacts** including **risk** assessment
- Measures to manage impacts
- Statement of proposed environmental and mine rehabilitation outcomes
- Draft compliance criteria
- Results of consultation (including the landowner)



# Impact

- any change to the environment wholly or partially, directly or indirectly caused by mining operations.
- Consider :
  - Source
  - Pathway
  - Barrier
  - Receptor
  - Consequence (for receptor)



# ***Risk***

Is the possibility of an impact event occurring that impacts negatively on the environment, taking into account the natural resilience of the environment or proposed management strategies.



Risk is a combination of likelihood of the event occurring and the consequence should it occur.

Residual risk is the risk after control measures have been applied



# *Legislative framework*

## **Stage 2:** Operations approval

- Program for Environment Protection and Rehabilitation (PEPR)
- Formerly called “MARPA”
- Part 10A of Mining Act
- Addresses environmental outcomes
- Can be reviewed at any time
- Can be general (e.g. exploration) or specific (e.g. mine)





# ***Program for Environment Protection and Rehabilitation (PEPR)***

Content of PEPR must comply with:

- Sections 70A, 70B(2)
- Regulation 65
- Any Minister's Determination\* under Regulation 65(7)

\*under development



# ***Program for Environment Protection and Rehabilitation (PEPR)***

Provided in a manner and form specified or approved by the Minister

Content of PEPR must include:

- environmental **outcomes**
- mine rehabilitation and closure outcomes
- **Compliance (measurement) criteria**
- Leading indicator criteria
- Monitoring plan
- Results of consultation



## *Outcome (in lease conditions)*

Not defined by the Mining Act, derived from Risk Assessment

- An outcome is a statement of the expected impact on the environment caused by the proposed or current mining activities.
- Must cover construction , operation and mine closure
- Outcomes are enforced by demonstrating compliance with measurable assessment criteria

Form is “*impact level on receptor from mine source*”



# ***Compliance (Measurement) Criteria***

- Regulation 65 specifies requirements
- Criteria are agreed clear and specific measurable targets or standards.
- Criteria must include:
  1. what is to be measured
  2. How it will be measured (method)
  3. where it is to be measured,
  4. When it will be measured (frequency)
  5. Compliance limits - the acceptable result or target (accounting for errors of measurement)
  6. any background or control data required





## ***Defining, Managing and Measuring - pulling it all together***

1. Description of environment
2. Description of operation
3. Establish environmental values in **consultation with affected parties**
4. Identify credible impact events
5. Propose control measures
6. Determine residual risk- effect of control measures
7. Predict environmental outcome
8. Accept or reject environmental outcome **with stakeholder input**
9. Refine 5-8 until outcome acceptable
10. Develop compliance criteria



# ***EXAMPLE: Angas Lead, Zinc Mine***

- Lead zinc mine close to Strathalbyn
- Permanent Tailings Storage Facility
- Within River Murray catchment
- Tailings water saline with heavy metal content
- Registered bores within 1km of site boundaries



# ***EXAMPLE: Angas Lead, Zinc Mine***

## **Environmental Value:**

- Irrigation use and ecosystem maintenance at discharge (bore) area

## **Potential impact:**

- Contamination of groundwater by seepage from tailings storage facility

## **Outcome:**

- No impacts to users of groundwater from permanent or temporary storage of mine ore or waste material

## **Criterion:**

- Monthly water sampling of monitoring bores (plan x) will show no contamination above existing background levels (table z)





## ***Bonds and financial security***

- To cover full liability of 3<sup>rd</sup> party rehabilitation of land (Section 62)
- Assessed by DMITRE as maximum liability during life of mine
- Usually in the form of a Bank guarantee
- May be reviewed at any time by DMITRE
- Public liability insurance (\$20-50 million) (Regulation 90)



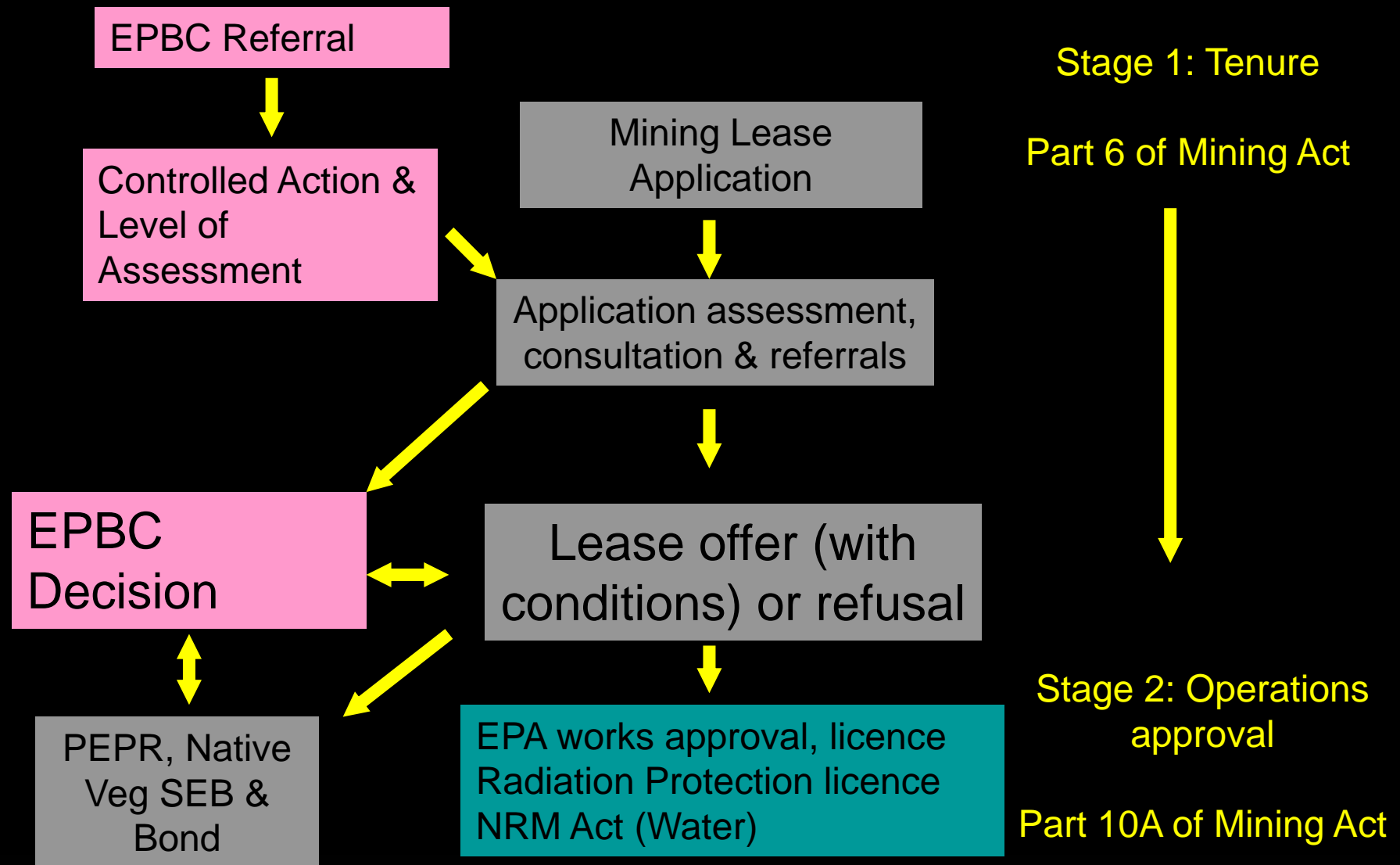


## *Other key environmental approvals required*

- Environment Protection Act – Activities covered by Schedule 1 require licence
- Radiation Protection and Control Act – licence and management plans required
- NRM Act - water permits and licences
- **EPBC Act (Commonwealth) – Uranium and listed species**
- **Native vegetation Act – SEB required for clearance**

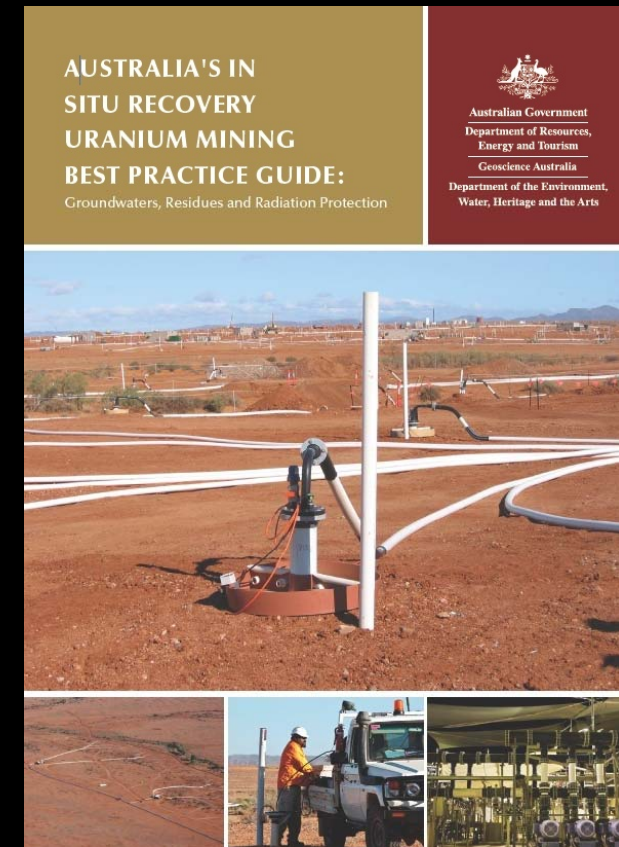


# Parallel process for EPBC approvals



# EPBC - Uranium mines

- Always a controlled action for mining, but not for field trials
- The Commonwealth determines the level of assessment – usually at PER level
- Commonwealth and State can co-ordinate assessment processes to ensure consistency and efficiency
- Uranium proposal must demonstrate it meets Best Practice – for ISR mines this means conforming with the ISR Best Practice Guide
- Aim is to ensure that the Commonwealth and State approval conditions are consistent



# ***Native Vegetation Act 1991***

- Exemption for mining to clear native vegetation - must demonstrate a “significant environmental benefit” (SEB)
- DMITRE has delegation to approve Native Vegetation Management plans under Native Vegetation Act
- Offset ratios vary from 2:1 to 10:1 depending on value/quality of vegetation to be cleared
- Demonstrate SEB via payment into Native Vegetation fund or to manage offsite area.



# ***Compliance***

## New compliance tools introduced in July 2011 Mining Act changes

- Change tenement conditions to protect environment
- Review of PEPR Part 10A (s.70C(2))
- Environmental Directions (s. 70E)
- Rehabilitation Directions (s. 70F)
- Compliance Directions (s. 74AA)
- Appeals (s. 70G)



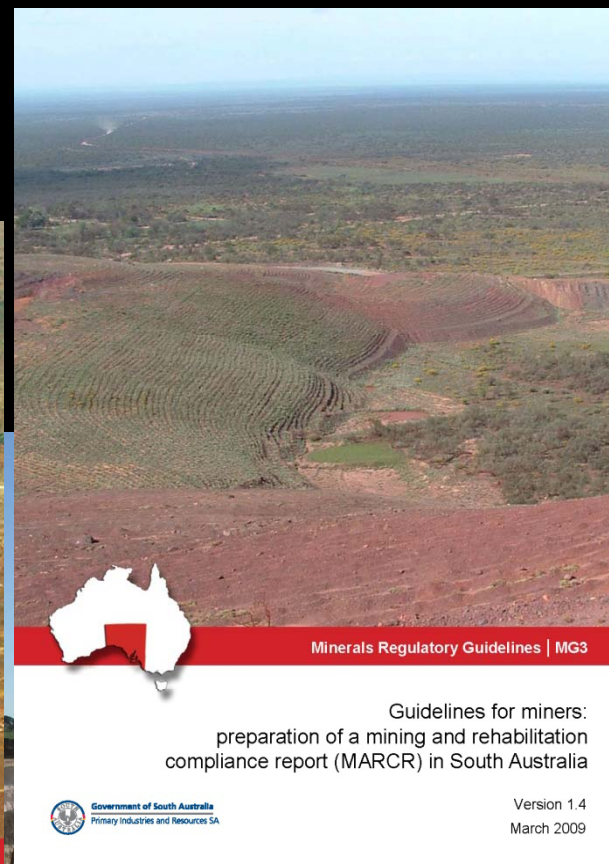
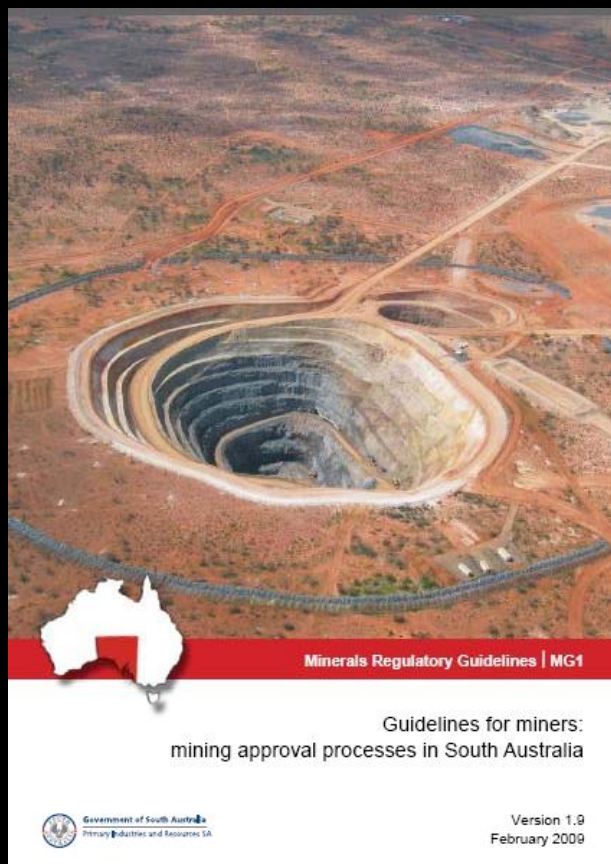
# ***Conclusions***

The Mining Assessment process in South Australia provides:

- Clear environmental outcomes and assessment criteria developed through a risk based process.
- Is a fair, equitable, efficient process that is flexible to all stakeholders
- Can deliver transparent and predictable decisions within 6 months of lodgement of a complete mining lease application
- Triple bottom line sustainability and consequent social licence to operate







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