chapter 5

Regulation

5.1 INTRODUCTION

Petroleum exploration and development activities in South Australia are administered by the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) under the South Australian *Petroleum and Geothermal Energy Act 2000* (PGE Act, onshore), the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (offshore) and the South Australian *Petroleum (Submerged Lands) Act 1982* (offshore). The PGE Act was proclaimed on 1 October 2009 and supersedes the Petroleum Act 2000. The PGE Act has a number of aspects that are considered a comparative advantage without precedent in other Australian legislation. For details refer to Goldstein et al, (2007[1]).

High level objectives of the PGE Act include:

- Sustain trusted practical, efficient, effective and flexible regulation for upstream petroleum, geothermal and gas storage enterprises, and the construction and operation of transmission pipelines, in the State;
- Encourage and maintain competition in the upstream petroleum and geothermal sectors;
- Protect the public's interest in the sustainability of natural, social and economic environments from risks inherent in petroleum and geothermal operations;
- Sustain effective consultation processes with people affected by regulated activities, and the public in general; and
- Ensure as far as reasonably practical the security of supply of natural gas.

These objectives drive certainty for business by providing clarity in terms of regulatory requirements and for investment timelines, and for the public so the community can expect their interests to be protected. The objectives refer to the protection of the public's interest in the sustainability of the natural, social and economic environments, which is sometimes referred to as the triple bottom line.

It is important in this discussion to highlight that in the context of the PGE Act the definition of environment (under section four of the PGE Act) is broad, and includes:

- Land, air, water (including both surface and underground water)
- Organisms and ecosystems – this includes native vegetation and fauna;
- Buildings, structures and cultural artefacts;
- Productive capacity or potential;
- The external manifestations of social and economic life which includes aspects such as human health and wellbeing; and
- The amenity values of an area.

1 Goldstein, B.A., Alexander, E., Cockshell, D., Malavazos, M., and Zabrowarny, J, 2007, The Virtuous Life-Cycle for Exploration and Production (E&P): Lead and Lag Factors. APPEA Journal, Volume 47, pages 387-401

This definition of environment is consistent with the *Environment Protection Act 1993*[2] definition, and is broad to ensure that potential impacts on all natural, social and economic aspects of the environment are identified, considered, and appropriately addressed through the environmental assessment and approval provisions of the PGE Act.

A key lesson learnt in post-event investigations of significant incidents is that regulators must have relevant and up-to-date capabilities (competence and capacity) to be trusted to act in the interests of the public in protecting natural, social and economic environments during upstream petroleum industry activities. Additionally the risks of regulatory capture must be effectively managed. As the regulator of upstream petroleum and geothermal energy activities in South Australia, administering the PGE Act, DMITRE strives to maintain a one-stop-shop or lead agency approach. Through this approach DMITRE works closely with its co-regulatory agencies, such as, the South Australian Environment Protection Agency, Department of Environment, Water and Natural Resources (DEWNR), Safe Work SA, Department of Health, Department of Planning, Transport and Infrastructure (DPTI) and Aboriginal Heritage to deliver an efficient application of all relevant laws and regulations applicable to the petroleum and geothermal industries in South Australia.

This approach has been discussed by Australia's Productivity Commission (2009[3]) which concluded:

- One-stop-shops (lead agencies) are the most efficient regulatory approach when well managed without capture;
- *Under a lead agency approach …*

  approval of most, if not all, aspects of an application would rest with one designated agency. This agency … would maintain control of the process and in most cases, would consult with other relevant agencies, such as an environmental agency, rather than formally refer the application to a separate agency for assessment. In some limited circumstances where impacts are considered to be significant, a formal referral may take place. By maintaining control of the approval process the lead agency approach is able to streamline approval processes and minimise time delays.

- South Australia's one-stop-shop (through DMITRE), '*is widely seen as a model for other jurisdictions to emulate*';
- *With appropriate governance, experience in South Australia suggests that [lead agencies] can achieve an appropriate balance between enforcing legislative provisions and expediting approvals.*

Properly resourced one-stop-shops (lead agencies) transparently facilitate the delivery of all co-regulatory objectives and requirements, and hence earn trust from the industry, co-regulatory agencies and the public. A one-stop-shop approach enables stewardship of approval processes in parallel rather than in series.

The *Petroleum and Geothermal Energy Act* has been designed to enable a one-stop-shop approach such that in complying with the objectives of the PGE Act and through the processes that will be described in this chapter, upstream petroleum operations' compliance with obligations under other legislation[4] will also be facilitated. These concurrent legislation and requirements include

- The Commonwealth's *Environmental Protection, Biodiversity and Conservation Act 1999* (EPBC Act) to

2 www.legislation.sa.gov.au/LZ/C/A/ENVIRONMENT%20PROTECTION%20ACT%201993.aspx

3 Australia's Productivity Commission, 2009, Research Report - Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Commonwealth of Australia. Download from: www.pc.gov.au/__data/assets/pdf_file/0011/87923/upstream-petroleum.pdf

4 See www.legislation.sa.gov.au for all South Australian Legislation

protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as matters of national environmental significance. The Commonwealth Government Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) provides stewardship for the EPBC Act, and this legislation is a key part of the co-regulatory process across South Australia

- South Australia's *Environment Protection Act 1993* (EP Act), and relevant policies that provide the regulatory framework to protect South Australia's environment, including land, air and water. This legislation was the result of the streamlined integration of six Acts of Parliament and the abolition of the associated statutory authorities. South Australia's Environmental Protection Agency (EPA) provides stewardship for this Act
- South Australia's *National Parks and Wildlife Act 1972* (NP&W Act), which is the cornerstone for protecting natural environments within parks and regional reserves in the State. South Australia's Department of Environment, Water and Natural Resources (DEWNR) provides stewardship for this Act. The NP&W Act is significant as it is a key part of the co-regulatory approval regime for minerals and energy (including unconventional gas) resource exploration and production in South Australia
- The South Australian *Occupational Health, Safety and Welfare Act 1986* (OHSW Act) is the state's lead legislation to protect people in the workplace. South Australia's SafeWorkSA provides stewardship for this Act
- The South Australian *Native Vegetation Act 1991* (NV Act), administered by DEWNR
- The South Australian *Natural Resources Management Act 2004* (NRM Act), administered by DEWNR
- The South Australian *Development Act 1993*, administered by the Department of Planning, Transport and Infrastructure
- The South Australian *Public and Environmental Health Act 1987*, and specifically the Public and Environmental Health (Waste Control) Regulations 2010, as administered by HealthSA
- The South Australian *Native Title (South Australia) Act 1994*, administered by the State's Attorney General's Department
- The Commonwealth *Native Title Act 1993* (NT Act) administered by the Commonwealth's Attorney General's Department
- The South Australian *Adelaide Dolphin Sanctuary Act 2005*, administered by DEWNR
- The South Australian *Aboriginal Heritage Act 1988* administered by the State's Department of Aboriginal Affairs and Reconciliation
- *The South Australian Marine Parks Act 2007* administered by DEWNR
- *The South Australian River Murray Act 2003* administered by DEWNR; and
- *The South Australian Arkaroola Protection Act 2012* administered by DEWNR.

Compliance with these pieces of legislation is facilitated through collaborations and working arrangements between DMITRE and the government agencies that administer these Acts, to ensure that the Statements of Environmental Objectives (SEO) that must be complied with for specific activities are consistent and in keeping with the relevant objects of each of these Acts. The SEO and the collaborative relationships between DMITRE and co-regulatory agencies including consultation arrangements are described in section 5.3, and descriptions of the agencies that administer the above Acts are provided in section 5.5.

Some additional relevant information is

provided in Chapter 7 (Key Investment Settings).

5.2 Principles for Best Practice Regulation

The PGE Act was developed on the basis of the following 6 principles for regulatory best practice:

1. **Certainty.** The regulatory objectives are uniform, clear, and predictable for all stakeholders.
2. **Openness.** Stakeholders are appropriately consulted on the establishment of the regulatory objectives.
3. **Transparency.** The regulatory decision-making processes are visible and comprehensible to all stakeholders and industry performance in terms of compliance with the regulatory objectives is clear to all stakeholders.
4. **Flexibility.** The level of regulatory scrutiny, surveillance and enforcement needed to ensure compliance is determined on the basis of individual company compliance capability and the outcomes to be achieved.
5. **Practicality.** The regulatory objectives are achievable and measurable.
6. **Efficiency.** The compliance costs imposed on both government and the licensee by the regulatory requirements are minimised and justified. Negative impacts on communities are minimised, and licensees remain liable for the cost of their impacts. Furthermore, an appropriate rent (Royalty) is paid to the community from the value realised from the development and production of its natural resources.

The above listed Regulatory Principles can be achieved through the following regulatory strategies.

- Regulatory objectives and assessment criteria for those objectives are developed through broad stakeholder consultation involving industry, government agencies and the community to ensure acceptance and credibility in the environmental objectives to be achieved
- Regulators and licensees maintain trustworthy capabilities (competence and capacity)
- Effective, informative stakeholder consultation by both project operators and regulators is initiated well ahead of land access. This drives operators to explain their planned activities and any potential risks, seek feedback on areas of interest or concern for the community, and establish relationships and terms for land access with stakeholders well before applying for activity approval from DMITRE, e.g. before any particular activity 'gets personal'
- Provide public access to details of risks, reliable research to reduce key uncertainties and support risk management strategies so the basis for regulation is contestable
- Timely notice of entry with sufficient operational details to effectively inform stakeholders
- Potentially affected people and organisations can object to land access – while the regulator and prescribed dispute resolution processes do not support, and hence minimise, vexatious objections
- Fair and expeditious dispute resolution processes
- Fair compensation to affected land-users for costs, losses, and deprivation of land use due to operations
- Reduction of risks to low or as low as reasonably practicable (ALARP), while also meeting community expectations for overall outcomes
- Licensees monitor and report (to the

regulator) on the efficacy of their risk management processes, and the regulator probes same

- The regulator can prevent and stop operations, require restitution or rehabilitation, levy fines and cancel licences
- Industry compliance records are made public, so the efficacy of regulation is transparent.

Clear, efficient and effective activity approval processes are fundamental for trustworthy regulation. Mapping approval processes can also elucidate scope for increased efficiency and reduced red tape. Figures 5.1a, 5.1b and 5.1c illustrate the three-stage process for petroleum and geothermal licensing and approvals in South Australia with a one-stop-shop approach led by DMITRE, for exploration, retention, production and associated activities.

The first stage (figure 5.1a) entails the grant of a licence authorizing the licensee to carry out specific activities to which the licence relates. Environmental assessments are required in the second stage (figure 5.1b). Statements of Environmental Objectives (SEOs) and environmental assessment criteria for activity approvals are established in this second stage. Finally, in the third stage (figure 5.1c), a location-specific activity notification is submitted for assessment and approval, where required.

All three stages are required to be completed before regulated activities can commence. In practice, it is possible for some aspects of each stage to progress in parallel. This flexibility is most easily enabled through discussions with the regulator (DMITRE) early in the planning process. Figures 5.1a and 5.1b specify relevant regulations (of the PGE Act) to help guide licensees through these stages.

Figure 5.1a. Stage 1 of licensing and approval process for exploration, retention and production activities pursuant to South Australia's *Petroleum and Geothermal Energy Act 2000.* *(Blue box = initiated by proponent/Licensee and Green box = initiated by DMITRE/ SA Government)*

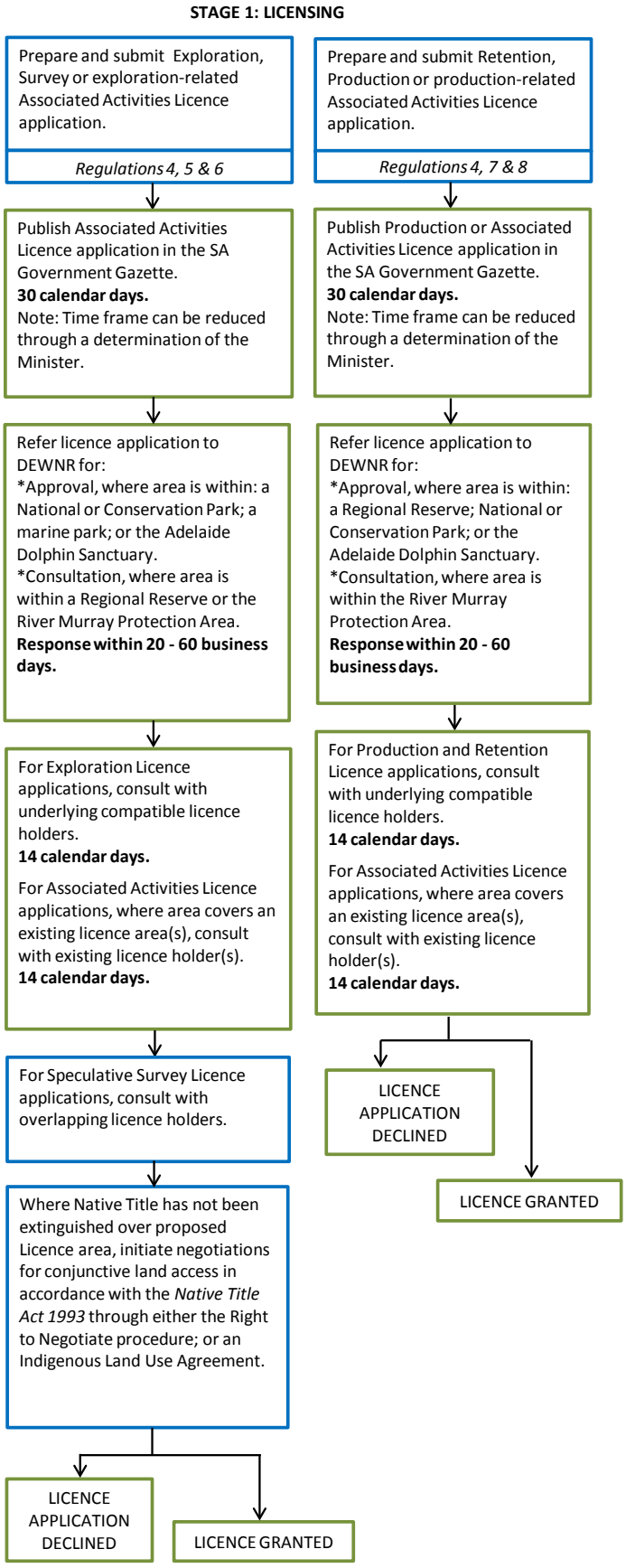


Figure 5.1b. Stage 2 of licensing and approval process for exploration, retention and production activities pursuant to South Australia's *Petroleum and Geothermal Energy Act 2000.* *(Blue box = initiated by proponent/Licensee and Green box = initiated by DMITRE/ SA Government)*

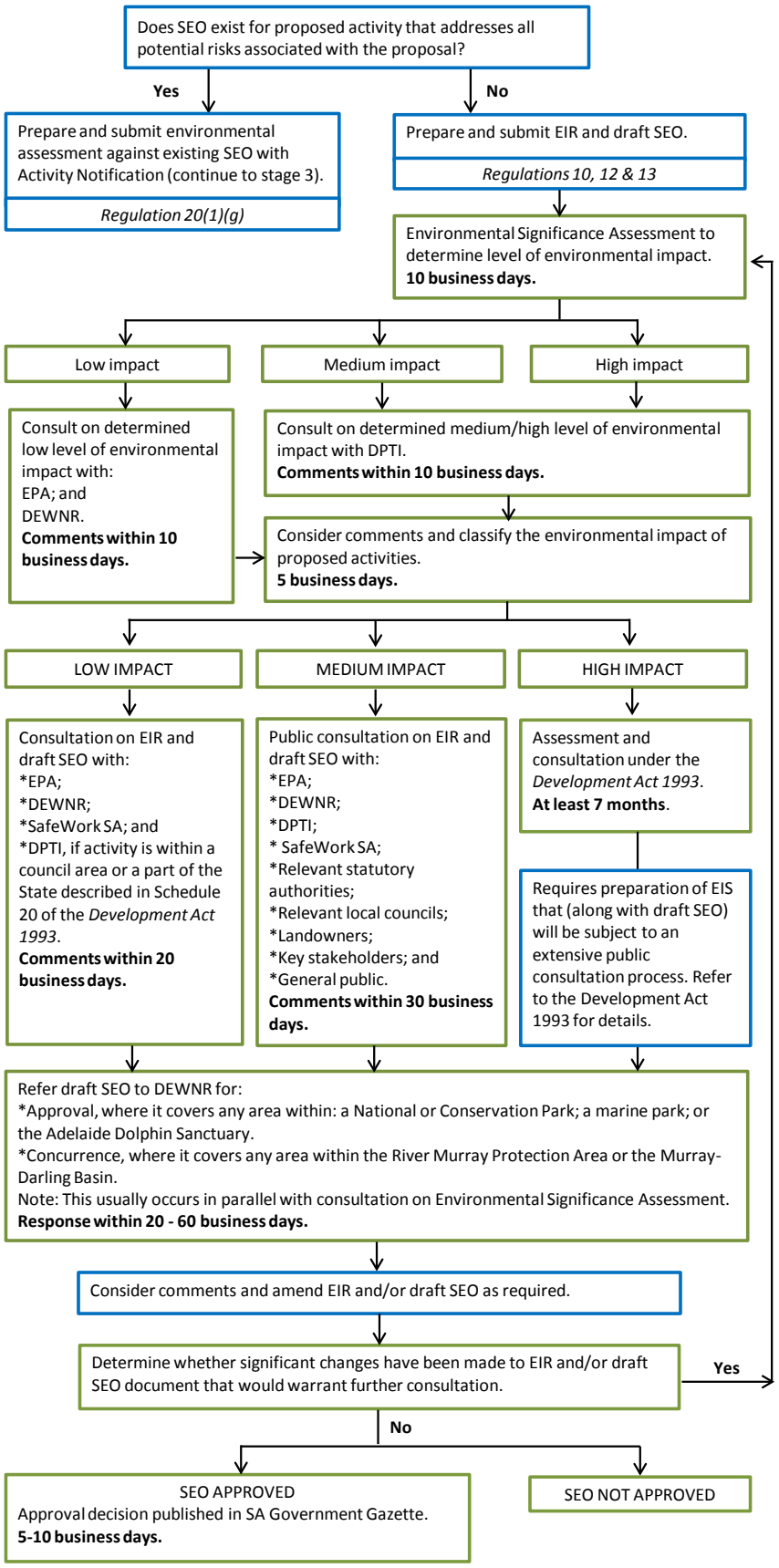
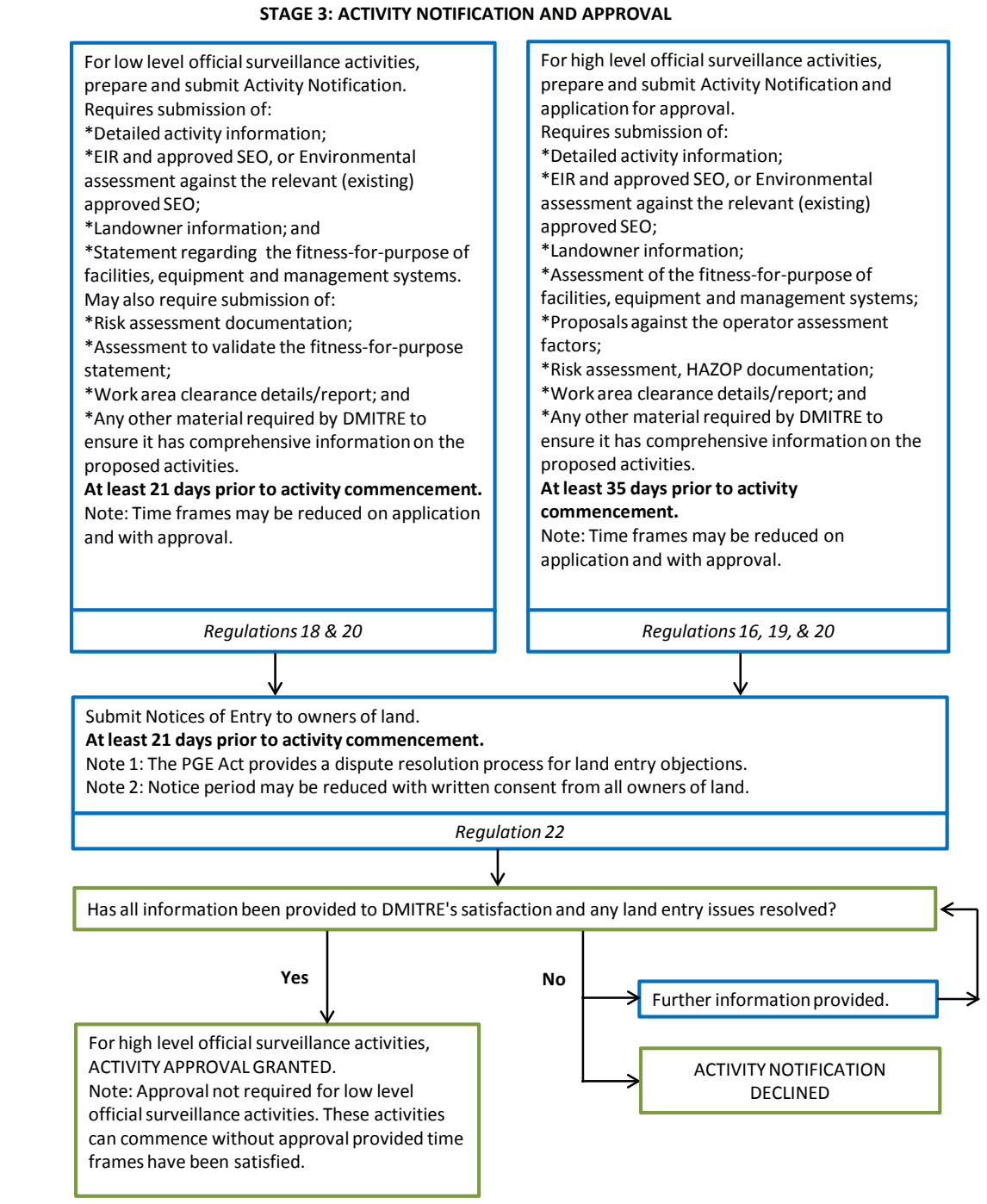


Figure 5.1c. Stage 3 of licensing and approval process for exploration, retention and production activities pursuant to South Australia's *Petroleum and Geothermal Energy Act 2000*.



DEWNR = Department of Environment, Water and Natural Resources
DMITRE = Department for Manufacturing, Innovation, Trade, Resources and Energy
DPTI = Department of Planning, Transport and Infrastructure
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
EPA = Environment Protection Authority
HAZOP = Hazard and Operability Study
PGE Act = Petroleum and Geothermal Energy Act 2000
SA = South Australia
SEO = Statement of Environmental Objectives

Blue box = initiated by proponent/ Licensee

Green box = initiatied by DMITRE/ SA Government

Version 4: August 2012

5.3 Licensing and Approval Processes

In the context of the definition of environment under the PGE Act, and the principles of best practice regulation as described in section 5.2, the approval processes under the PGE Act comprise of 3 key stages as detailed in Figures 5.1a, 5.1b and 5.1c[5] and described below.

Stage 1 Licensing Approval (Fig 5.1a)

The first stage relates to the licence application and approval process, where a proponent applies for the appropriate licence to give them the right to undertake regulated activities within a licence area. A licence granted under this stage is not a right to do any on ground activities; rather it is simply an exclusive right to an area within which the licensee can then apply for approval to undertake activities. Regulated activities are defined in Section 10 of the PGE Act and include exploration for regulated resources, operations to establish the nature and extent of a discovery of that resource and the potential commerciality of its production, production, and construction and operation of transmission pipelines for carrying regulated substances. Such activities can only be undertaken subsequent to approvals granted under Stages 2 and 3, which address the environmental and operational aspects of activities.

Only parties with the demonstrated capacity to invest in and safely conduct regulated activities are eligible to become PGE Act licence holders. Licences are available for exploration, retention of explored areas to conduct assessments of commerciality, production, pipelines, preliminary and speculative surveys, associated activities and for special facilities relevant to regulated activities. Exploration licence applications over vacant areas can be lodged at any time for areas that are not considered as competitive tender regions. Within competitive tender regions the Minister is required to call for tenders to be lodged within a specific timeframe, and competing applications are assessed in terms of the work program proposed and the financial and technical ability of the applicant.

At the licensing approval stage, prior to the grant of any licence, if and where applicable, a Native Title Land Access Agreement or Indigenous Land Use Agreement signed by all parties, the Crown, the Licensee and relevant Native Title Claimant Group must be in place. Publicly available Native Title land access agreements[6], first deployed in October 2001 in South Australia, remain benchmarks for best practice deeds that meet requirements of the Commonwealth *Native Title Act 1993*. To date, Aboriginal people, the upstream petroleum industry and the South Australian Government have agreed upon conjunctive native title land access agreements for 53 petroleum exploration licences, and expect to increase the number of conjunctive Indigenous Land Use Agreements (ILUAs) from two to three in 2012.

This will manifest another milestone for the certainty of upstream petroleum regulatory process – with conjunctive ILUAs for petroleum covering the whole of the Cooper-Eromanga basins in South Australia as shown in Figure 5.2.

Conjunctive land access agreements for petroleum activities have also been agreed by current Petroleum Exploration Licensees over part of the South Australian Officer Basin that coincides with lands owned by the Anangu Pitjantjatjara Yankunytjatjara (APY) and Maralinga Tjarutja (MT) people.

5 Go to www.petroleum.dmitre.sa.gov.au/legislation/activity_approval_process

6 Refer to www.pir.sa.gov.au/petroleum/environment/native_title,_aboriginal_lands,_iluas

The template RTN and ILUA Native Title land access agreements in South Australia deliver:

- For companies – timely certainty to attain compliant land access; and
- For relevant Native Title claimants and relevant owners of Native Title - benefits included to date but are not limited to: revenues from sign-on fees; direct control of, and remuneration for, site clearances to protect heritage and Native Title; payments that amount to 1 percent of the net wellhead value (as calculated for royalties in South Australia); and capped funding to cover administrative costs.

The experience and trust built through successive RTN and ILUA proceedings[7], and through well planned and environmentally sustainable operations, promotes ongoing, expeditious, fair and sustainable land access agreements with Aboriginal people. Early efforts led to a step-change towards best practice land access negotiations to satisfy both the letter and spirit of the Commonwealth *Native Title Act 1993*.

With reference to the principles for best practice regulation, adopting the transparency principle, South Australia publishes Native Title land access agreements on DMITRE's website, providing the benefits of experience for subsequent negotiations. No other Australian jurisdiction has this requirement to publish land access agreements. It is worth considering the risk and reward implications of industry opting to provide public access to at least template terms for leading practice, to enable experience based learning, and adding certainty for outcomes in future land access negotiations.

Prior to the grant (or refusal) of licence areas DMITRE are also required to refer some licence applications to the Department of Environment, Water and Natural Resources (DEWNR) for comment and in some cases approval from the Minister for Sustainability, Environment and Conservation or the Director of National Parks and Wildlife, for regulated activities within the protected area network in South Australia. In tandem with the PGE Act, the National Parks and Wildlife Act 1972 establishes the approval regime for petroleum and geothermal energy exploration and production within the reserve system. As detailed in Figure 5.1, and in accordance with the administrative arrangement[8] between DMITRE and DEWNR[9], licences require approval from the Minister for Sustainability, Environment and Conservation if the area falls within a National Park, a Conservation Park or the Adelaide Dolphin sanctuary. Exploration, survey, or exploration related associated activities licences also require the Minister's approval if the licence area falls within a Marine Park, and retention, production, and production related associated activities licences require approval within Regional Reserves. Through this process, matters of interest to DEWNR can be addressed prior to the grant of a licence to avoid potential land use conflicts, which in turn gives greater certainty to the proponent with respect to security of title. Some production and pipeline licences may also need to be referred to the Minister administering the *Development Act 1993* in certain circumstances.

The second and third stages of approval as detailed in Figure 5.1 relate to the environmental and activity approvals under the PGE Act. It is at these stages that potential specific on ground activity impacts and risks, and strategies for their management, are detailed and addressed. Stakeholder concerns regarding such impacts and the effects they may pose on their own interests are also addressed during these stages.

7 CO 1998 Blocks A – K that became Petroleum Exploration Licences 86 to 96.

8 Administrative Arrangements are available on the DMITRE website. www.petroleum.dmitre.sa.gov.au/environment/regulation/admin_arrangements

9 Formerly the Department of Environment and Heritage (DEH) at the time the agreement was prepared.

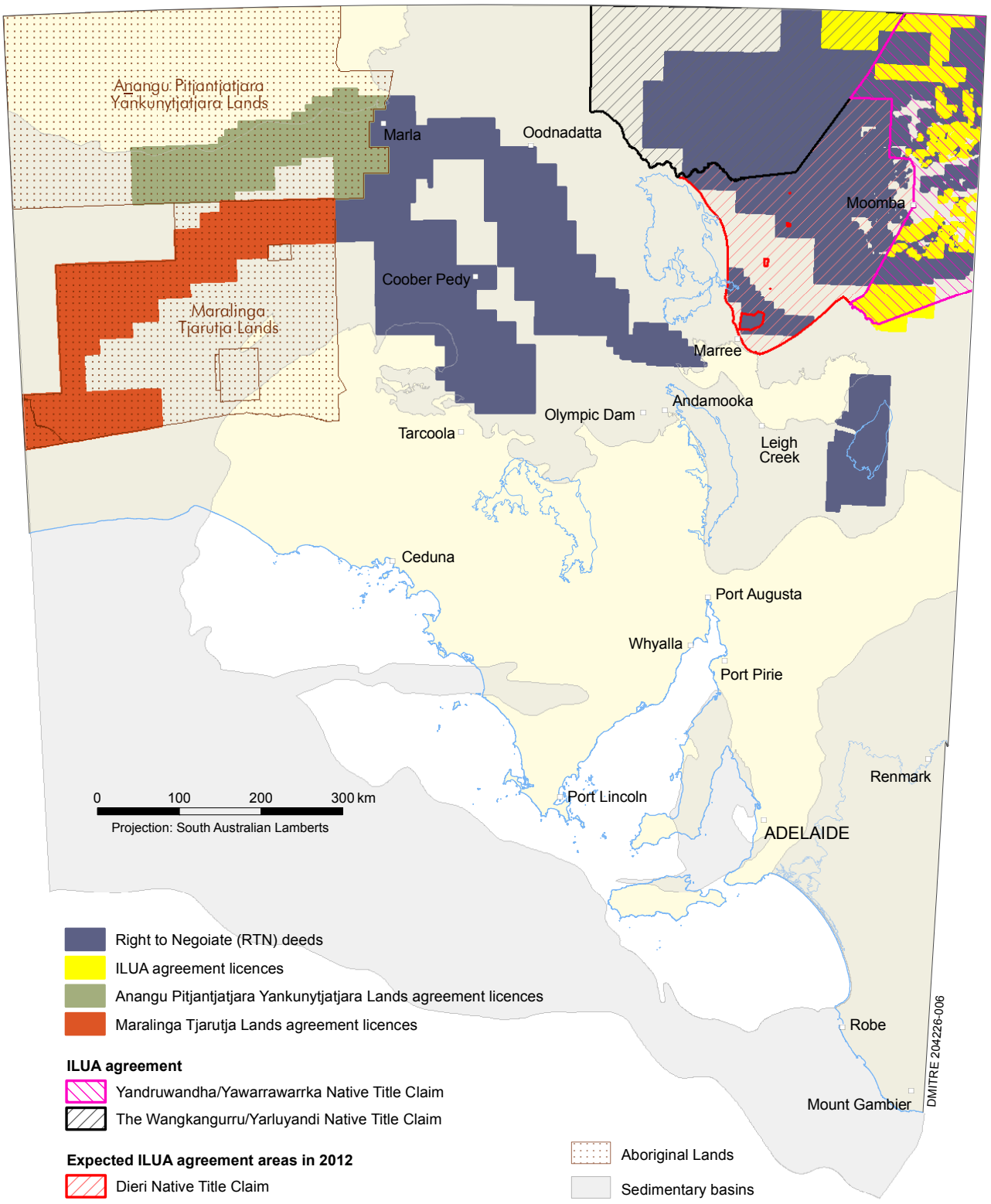


Figure 5.2 *Areas covered by conjunctive land access agreements with Aboriginal people for petroleum operations in South Australia.*

Stage 2 Environmental Assessment and Approval (Fig 5.1b)

As mentioned earlier, the grant of PGE Act licences do not provide an automatic entitlement to land access to conduct operations. Rather, regulated activities under the PGE Act (under section 96) may not be carried out unless an approved Statement of Environmental Objectives (SEO) is in place, prepared on the basis of an Environmental Impact Report (EIR).

The EIR identifies all potential impacts and their risks relating to the activity and the proposed risk mitigation strategies. The SEO identifies the environmental objectives to be achieved to address the risks identified in the EIR and the criteria to be used to assess achievement of the objectives

The impacts that the EIR and the final SEO are expected to address may include for example:

- Impacts on aquifers including pressure and contamination;
- Impacts on groundwater use;
- Contamination of surface water and shallow groundwater;
- Soil contamination;
- Impacts on native vegetation and native fauna caused by clearance required for above ground infrastructure (e.g. track clearance, water storage ponds, flow back storage ponds, other infrastructure, etc);
- Interaction of stock or native fauna with water storage ponds;
- Potential impacts of introduction or spread of pest plants and animals;
- Disturbance to existing land uses (e.g. within reserves under the National Parks and Wildlife Act 1972, pastoral land, etc);
- Air pollution and greenhouse gas emissions; and
- Remediation and rehabilitation requirements.

Division 3 of the *Petroleum and Geothermal Energy Act* and Part 3 of the Regulations describe the information that must be provided in Environmental Impact Reports and Statement of Environmental Objectives.

In accordance with the definition of the Environment in the PGE Act, the EIR and SEO must also address potential impacts on the 'external manifestations of social and economic life' which includes aspects such as human health and wellbeing. Doctors for the Environment Australia[10] advise that potential health impacts of unconventional gas developments may include: physical and mental health consequences, from chemical exposure, air emissions, water contamination or impacts on food production; and socioeconomic impacts. Further information on potential impacts can be found in a recently released report from the Province of New Brunswick in Canada, the *Chief Medical Officer of Health's Recommendations Concerning Shale Gas Development in New Brunswick*[11] which provides an example of the public health concerns that are being raised for consideration in the region. Guidance for licensees is provided by DMITRE in the *Criteria for Classifying the Level of Environmental Impact of Regulated Activities*[12] with examples of events and consequences to be considered in an EIR, including health impacts, however each proposal will need to be assessed individually to ascertain its potential natural, social and economic environmental consequences.

Furthermore, potential impacts on Matters of National Environmental Significance (NES) can also be addressed in the EIR and SEO where relevant. DMITRE are currently seeking accreditation under the EPBC Act for this purpose.

10 dea.org.au

11 Province of New Brunswick, 2012, *Chief Medical Officer of Health's Recommendations Concerning Shale Gas Development in New Brunswick, September 2012.* Access from www2.gnb.ca/content/gnb/en/corporate/promo/natural_gas_from_shale.html

12 Available at www.pir.sa.gov.au/__data/assets/pdf_file/0018/27702/environment_criteria.pdf

Through the consultation requirements of the PGE Act, stakeholders including landholders and other government agencies are required to be informed and consulted on the potential risks associated with proposed activities, and management strategies to be deployed to minimise such risks to an acceptable level. Stakeholders are also provided with opportunities to raise any issues of concern they may have prior to the commencement of regulated activities. Other agencies with the duty of care for ensuring the objects of the legislation that they administer are met are consulted to ensure their requirements are included within the objectives detailed in the SEO.

DMITRE expects that licensees will initiate consultation with stakeholders prior to and during the development of their EIR and SEO, to describe their planned activities and the potential impacts, positive or otherwise, which may be experienced by the stakeholders. This is also an opportunity for the licensee to respond to any queries that their stakeholders may have and to understand concerns to ensure that they are addressed within the EIR and SEO.

Once an EIR and draft SEO have been prepared and submitted for assessment, DMITRE uses the information provided in the EIR to complete an environmental significance assessment to determine the level of environmental impact of the activity. The significance assessment is conducted in accordance with publicly documented criteria[12] to assess the level of certainty in the predicted impacts such as those listed above, their potential consequences related to the proposed activities and the degree to which these consequences can be managed. The environmental significance criteria enable identification of deficiencies in stakeholder consultation during the development of the EIR and draft SEO. Where DMITRE's assessment identifies such a deficiency, the determined level of environmental significance may be greater and likely to trigger more extensive stakeholder consultation by DMITRE. This ensures relevant stakeholders are provided with appropriate time for opinions to be considered and represented equitably in advance of SEO and subsequent activity approvals.

The combination of the outcomes of the significance assessment criteria lead to the determination of the a level of significance for each event relating to the activity cumulating in the determination of an overall level of environmental impact of the activity as low, medium or high. The level of environmental impact that is assigned to a particular activity in turn determines the consultation that DMITRE undertakes, both on the level assigned, and the content of the EIR and draft SEO documents. These consultation arrangements are outlined within administrative arrangements between DMITRE and its co-regulatory agencies, which are all available on the DMITRE website[13].

Where activities are assessed as being low environmental impact, DMITRE consults on its determination of the low level of environmental impact and the content of the EIR and draft SEO with the Environment Protection Authority (EPA) and the Department of Environment, Water and Natural Resources (DEWNR). DMITRE also consults on the content of the EIR and draft SEO documents with SafeWork SA, and the Department of Planning, Transport and Infrastructure (DPTI) if the area is within a council area or an area described in Schedule 20 of the Development Act 1993.

Where activities are assessed as medium environmental impact, DMITRE consults on the determined level with DPTI, and initiates a public consultation process inviting comments on the EIR and draft SEO from the public, and also directly from the EPA, DEWNR, DPTI, SafeWorkSA SA, relevant statutory authorities and local councils, landowners and stakeholders. During the public consultation process, the EIR and

13 www.petroleum.dmitre.sa.gov.au/environment/regulation/admin_arrangements

draft SEO are made available to the public through the DMITRE website and its office for at least 30 business days. Members of the public are notified of the consultation process through an advertisement in the local newspaper as well as on the DMITRE website, and in addition directly affected stakeholders are provided with targeted correspondence from DMITRE.

For activities assessed as being of high environmental impact, DMITRE consults with DPTI on this determination, and where DPTI agree with the assessment proposed activities assessed as high environmental impact are referred to DPTI for assessment and consultation under the Development Act 1993. This requires preparation of an Environmental Impact Statement and extensive public consultation.

For all activities within a National or Conservation Park, a Marine Park, or the Adelaide Dolphin Sanctuary, the draft SEO is referred to DEWNR for approval from the Minister for Sustainability, Environment and Conservation in line with agreements within the administrative arrangement between DMITRE and DEWNR. For activities within the River Murray Protection Area or the Murray-Darling Basin then DMITRE will seek concurrence on the SEO approval with DEWNR.

An example of this process was demonstrated recently through the development of Beach Energy's EIR and SEO for Fracture Stimulation of Deep Shale Gas and Tight Gas Targets in the Nappamerri Trough (Cooper Basin), South Australia. DMITRE assessed activities on the basis of the EIR and found them to be medium impact, leading to a public consultation process. The Minister for Mineral Resources and Energy invited public comments via a notice in the Advertiser on 14 April 2012, and through a notice and links to the documents on the Department website. Following consultation and with adequate responses provided for all comments received, the EIR and SEO were approved and gazetted, and can be found on the DMITRE website within the Activity Reports section of the Environmental Register.

Concerns raised during consultation are incorporated into the EIR and draft SEO documents as appropriate, enabling changes to address the comments prior to approval by the Minister. As noted previously, all of this happens well before any company can apply to undertake any on-ground activities regulated pursuant to the PGE Act.

Notwithstanding that the Minister's approval of an SEO will incorporate the input from the consultation process; any final decision which may not satisfy any legitimate stakeholder concerns is subject to a review and appeal process pursuant to Part 15 of the PGE Act, and as a last resort, by application to the District Court of South Australia.

All SEOs and associated EIRs are public documents and can be found on the DMITRE website[14].

Stage 3 Activity Notification and Application for Approval (Fig 5.1c)

The grant of PGE Act petroleum exploration, retention, production and pipeline licences does not provide an automatic entitlement to land access for regulated upstream petroleum operations.

Once the EIR and SEO are in place, a licensee can apply for approval to undertake a specific activity that is described within those documents. With the activity approval application the licensee provides DMITRE with an Activity Notification which contains detailed activity information including[15]:

- an environmental assessment of the activity against the SEO, including assessment as to whether the activity may have potential significant impacts

14 Refer to www.pir.sa.gov.au/petroleum/environment/register/seo,_eir_and_esa_reports

15 Information to be provided within an Activity Notification is detailed in Regulation 20 of the PGE Act.

on Matters of National Environmental Significance (MNES)

- landowner information (including copies of notices of entry sent to landowners)
- an assessment of the fitness for purpose of the licensee management systems and any facilities or equipment to be used
- work area clearance details and report
- risk assessment documentation
- any further information or material as required by DMITRE to ensure that the department has comprehensive information on the proposed activities.

Where MNES are identified, then referral to the Commonwealth Minister for Environment will be made by the licensee or the Department, for assessment and a decision as to whether the activity requires approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)[16]. If the activity (called an 'Action' under the EPBC Act) is assessed to be likely to have significant impact on a matter of national environmental significance, then it will be declared to be a controlled action that requires Commonwealth environmental impact assessment and approval.

Licensees can be classified as carrying out activities requiring high or low level official surveillance. The level of official surveillance determines the information that must be provided in the notification, the level of scrutiny that DMITRE applies during review of the notification, and the period of notice prior to the proposed commencement of activities. The PGE Act outlines operator assessment factors[17] that consider the licensees policies, procedures, management systems and track record to classify the licensee's level of official surveillance. Initially licensees are classified as carrying out high level official surveillance activities and must address the operator assessment factors within their activity notification. High level official surveillance operators must apply for approval to undertake activities at least 35 days in advance of the proposed activity commencement date, and cannot commence until approval is provided.

Operators can apply to be classified as carrying out low level official surveillance activities[18] and once classified can provide a shorter period of notice (at least 21 days) to the Minister through DMITRE before commencing activities, and do not require approval. Although approval is not required, if further information has been requested the licensee cannot commence until the department has comprehensive information on the activity.

Notice of Entry

Mutual trust for compatible, sustainable land access for upstream petroleum operations are traditionally indemnified with formal land access agreements struck between licensees, potentially affected people and enterprises. To provide impetus for fair and sustainable land access for petroleum, geothermal energy and gas storage operation in the State, the PGE Act was amended in 2009 to expand the 'owner of land' definition to cover all persons who may be directly affected by regulated activities, entitling them to notices of entry and compensation. This amendment has proved to be a driver for mutual respect. With this incremental legislated requirement, owners of land are provided with opportunities to raise concerns prior to the commencement of regulated activities, and the State's regulations require operations to effectively manage risks and meet community expectations for net outcomes, or the activities will not be approved. The outcome is demonstrable leverage to all persons

16 For more information see to www.environment.gov.au/epbc/assessments

17 Operator assessment factors are outlined in regulation 16 of the PGE Act.

18 Information on operator classification and the operator assessment factors is available on the DMITRE website. See www.petroleum.dmitre.sa.gov.au and go to >legislation and compliance > activity approval process > high and low surveillance classification.

who may be directly affected by regulated activities, not just those holding land titles, but also people such as Native Title claimants, persons holding a tenement over or in relation to the land, and anyone leasing potentially affected land for enterprises.

Notice of Entry is provided to landowners at least 21 days prior to the licensee's entry to the land to conduct an activity, and forms part of the activity notification process. Landowners are provided with information on the nature of the activities to be carried out including any anticipated events and the management of their consequences to minimise risks to an acceptable level, to enable the landowner to make informed decisions on whether this would have an impact on the land.

Landowners are entitled to object to the licensees proposed entry by giving notice to the licensee within 14 days of the notice of entry. In this circumstance the Licensee must notify the Minister that their entry is disputed and the activity cannot be undertaken until the dispute is resolved. The licensee and the landowner should attempt to reach an agreement of terms under which the licensee may enter the land, or if the risks of the activity to the landowner are too high the licensee may choose to modify the activity and re-issue the Activity Notification. In rare cases where the licensee and the landowner cannot resolve the dispute, then the Minister may attempt to mediate between the parties or either party may apply to the Warden's court for resolution. To date disputed Notices of Entry have been resolved through satisfactory negotiation and have not reached the Warden's Court.

Also, under the PGE Act, owners of land are entitled to appropriate compensation from petroleum licensees for any losses, deprivation or reasonable costs sustained during both the process of negotiating land access and for the full period of land access, right through to the decommissioning of any facilities.

In summary, the PGE Act gives all stakeholders (farmers, Aboriginal land owners, Native Title owners and claimants, et al) entitlements to be consulted well ahead of land access through stakeholder engagement during the development of EIRs and SEOs, and again ahead of land access with the required Notice of Entry process describing the proposed activities and associated impacts. This provides ample opportunity to all relevant stakeholders to discuss the activities with licensees and where appropriate negotiate compensation. The obligations for licensees to consult and provide Notices of Entry, and the right of owners of land to object, underpin the balance of sustainable development under the PGE Act.

5.4 Compliance and Enforcement

DMITRE continuously monitors licensee performance and compliance with the PGE Act.

South Australia's approach to provide fair, predictable and trustworthy regulation has been described by Malavazos (2001)[19] and entails a publicly available compliance policy[20] which is available on the DMITRE website. South Australia's compliance policy is centred on the prevention of harmful incidents, however depending on the severity of an incident may culminate in prosecution and licence cancelation when warranted. The compliance policy is summarised as a compliance pyramid as shown below in Figure 5.3.

19 Malavazos, M, 2001, The South Australian Petroleum Act 2000— principles and philosophy of best practice regulation. Published in the MESA Journal, V21, April 200. Pp 33-35. Download from: www.pir.sa.gov.au/__data/assets/pdf_file/0004/27580/pet_act_2000_mj21_apr01.pdf

20 Download from: https://sarigbasis.pir.sa.gov.au/WebtopEw/ws/samref/sarig1/image/DDD/RB201000013.pdf

DMITRE prepares a PGE Act Annual Compliance Report for the purpose of outlining:

- The compliance monitoring and surveillance activities carried out by DMITRE during each year for activities regulated under the PGE Act;
- Providing an overview of the regulatory performance of the petroleum and geothermal industries in accordance with the requirements of the PGE Act;
- All serious incidents that may have occurred from the previous year; and
- All step 2, 3 or 4 enforcement actions (Figure 5.3) that may have been taken during the year.

DMITRE's Petroleum and Geothermal Energy Act Compliance Report[21] and Company Annual Reports[22] are all publicly available through DMITRE's website.

As well as information provided through the Activity Notifications, DMITRE regularly meets with licensees to discuss their activities and compliance, and conduct ongoing monitoring and surveillance through both field and desktop studies. In addition to risk assessments and fitness-for-purpose assessments conducted prior to the construction of facilities, assessments must also be conducted thereafter at least once every five years to ensure that the integrity of facilities is maintained.

In addition, Licensees are required to submit annual reports reporting on activities undertaken within each licence area during the respective licence year, and their performance and compliance with the PGE Act and the relevant environmental objectives. Company Annual reports also provide information on the activities proposed for the ensuing licence year.

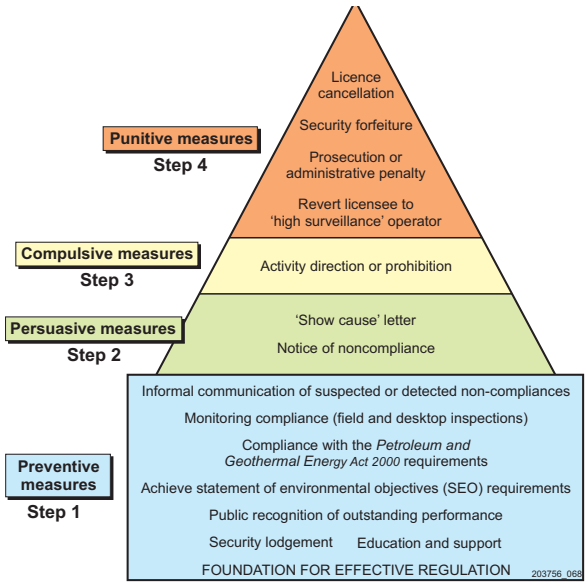


Figure 5.3 *South Australia's compliance enforcement policy under the PGE Act.*

Where there have been instances of serious and reportable incidents as defined under s.85 of the PGE Act, licensees are required to investigate such incidents to determine the root cause; and corrective actions to prevent their recurrence.

5.5 Co-Regulatory Agencies

As described previously in this chapter, through collaboration with co-regulatory agencies and processes outlined in administrative agreements DMITRE maintains a one-stop-shop for the regulation of upstream petroleum, geothermal energy and pipeline activities in South Australia. Licensees have obligations under legislation other than the PGE Act, and where possible the objectives of those other legislation are captured within Statements of Environmental Objectives for activities under the PGE Act. This is only possible by maintaining good working relationships with co-regulatory agencies and by maintaining an understanding of the requirements for PGE Act licensees under other legislation. DMITRE values the expertise and assistance of its co-regulatory agencies particularly when seeking advice during consultation on the content of EIR and SEO documents. A description of the agencies that administer

21 Available at: www.pir.sa.gov.au/petroleum/legislation/compliance/petroleum_act_annual_compliance_report

22 Available at: www.pir.sa.gov.au/petroleum/legislation/company_annual_reports

the legislation listed in the introduction, and the legislation that they have duty of care for, is provided below.

Environment Protection Authority

The Environment Protection Authority (EPA) is South Australia's leading environmental regulator, responsible for the protection of air and water quality, and the control of pollution, waste, noise and radiation. The EPA administers the *Environment Protection Act 1993* and the *Radiation Protection and Control Act 1982*, as well as developing guidelines and codes of practice. As a regulatory body, the EPA set and enforces standards and requirements that industries, companies and individuals must meet. As well as advising DMITRE on these standards and guidelines to ensure that requirements are included in Petroleum and Geothermal Licensee's Statements of Environmental Objectives, the EPA also licenses all production related regulated activities under the PGE Act that may also fall under the prescribed activities environmental significance definition under Schedule 1 of the EP Act. Licences set out environmental standards and conditions that those businesses must meet. DMITRE and the EPA ensure consistency, knowledge sharing and reduced red tape through cooperation as outlined in the Administrative Agreement between the Energy Resources Division and the EPA. More information is available from the EPA website www.epa.sa.gov.au and the DMITRE website.

Department of Environment, Water and Natural Resources (DEWNR)

The Department of Environment, Water and Natural Resources (DEWNR) was created on 1 July 2012 to bring together environment and natural resources management in South Australia. The new Department was created by amalgamating the Department for Water and the Department of Environment and Natural Resources. DEWNR has responsibility for providing advice on, and administering under delegated authority, a range of state Acts. As described earlier in this Chapter, licences are referred for approval from the Minister for Sustainability, Environment and Conservation if the area falls within a National Park, a Conservation Park or the Adelaide Dolphin sanctuary. For all activities within a National or Conservation Park, a Marine Park, or the Adelaide Dolphin Sanctuary, draft SEOs are referred to DEWNR for approval from the Minister for Sustainability, Environment and Conservation in line with agreements within the administrative arrangement between DMITRE and DEWNR. For activities within the River Murray Protection Area or the Murray-Darling Basin then DMITRE will seek concurrence on the SEO approval with DEWNR. The Minister for Sustainability, Environment and Conservation will consult with boards of management and advisory committees for regulated activities that occur within reserves where co-management arrangements under the National Parks and Wildlife Act 1972 exist.

Key legislation relevant to Petroleum and Geothermal licensees, administered by DEWNR, include the *Natural Resources Management Act 2004*, the *Native Vegetation Act 1991*, the *National Parks and Wildlife Act 1972* the *Marine Parks Act 2007*, and the *Adelaide Dolphin Sanctuary Act 2005*. The 22 separate acts that the department administers are listed on their website, see www.environment.sa.gov.au and go to, About Us, Legislation.

In relation to ground and surface water impacts, DEWNR are engaged and consulted to address matters associated with water allocation under relevant Water Allocation Plans and in the mitigation of potential water affecting activities pursuant to section 127 under the *Natural Resources Management Act 2004* (NRM Act). In the case of the latter, all SEOs have an objective prescribing that licensees must minimise any impacts on surface water flows. This objective specifically addresses the s.127 NRM Act requirement that prohibits the undertaking of any activities that may impact on surface water flows on a water course or a floodplain. It is through this objective that at the activity notification

stage, DMITRE review licensee specific activity notifications to ensure that any proposed activities do not contravene this requirement under the NRM Act and in the case where it may be likely, engage with the relevant NRM Board to facilitate the grant of a permit if required.

SafeWork SA

SafeWork SA is a division within the Department of Premier and Cabinet. SafeWork SA promotes and encourages safe, fair, productive workplaces in South Australia. It works in partnership and consults with employers, workers, unions and industry representatives to reduce work related death, injury, illness and disease. SafeWork SA is responsible for administering the *Occupational Health, Safety and Welfare Act 1986* and certain industrial relations laws in South Australia. Like all industries, all licensees under the PGE Act are subject to the general duty of care obligations under the OH&S legislation and more specifically to the provisions under Division 11, Part 6 for all Petroleum Work under the OH&S Regulations 2010. More information on SafeWork SA is available via their website www.safework.sa.gov.au

Department of Planning, Transport and Infrastructure

The Department of Planning, Transport and Infrastructure administers the *Development Act 1993*, which establishes the planning and development system framework in South Australia and many of the processes required to be followed within that framework, including processes for assessing development applications, and powers and responsibilities for those involved in the planning system. The Act sets out formal roles for the Minister who has carriage of the Act, and the statutory bodies it creates, such as the Development Assessment Commission (DAC) and the Development Policy Advisory Committee (DPAC) and local government (including Development Assessment Panels). More information is available from the department website www.dpti.sa.gov.au

Aboriginal Heritage Branch, Aboriginal Affairs and Reconciliation Division

The *Aboriginal Heritage Act 1988* is the legislation designed to protect Aboriginal heritage. Under this legislation, all Aboriginal sites, objects and remains in South Australia that are of significance to Aboriginal tradition, archaeology, anthropology and/or history are protected. The Aboriginal Heritage Branch, a branch of the Aboriginal Affairs and Reconciliation Division of the Department of the Premier and Cabinet, administers the Act on behalf of the Minister for Aboriginal Affairs and Reconciliation. The Act covers all areas of South Australia, providing protection for Aboriginal remains and Aboriginal sites and objects of significance to Aboriginal archaeology, anthropology, history and tradition.

As part of its legislative responsibility, the Aboriginal Heritage Branch maintains the Central Archive, which includes the Register of Aboriginal Sites and Objects. The Central Archive contains over 6600 site recordings, 1200 cultural heritage reports and other published material. The Register is not a comprehensive record of all Aboriginal sites and objects in South Australia, and all Licensees under the PGE Act must ensure that they complete Work Area Clearance surveys where required to ensure that any sites or objects that may exist in the areas where they intend to conduct activities are identified and avoided.

Native Vegetation Council

The *Native Vegetation Act 1991* (NV Act) ensures that areas of high conservation value are protected and that minor clearance is subject to a thorough assessment process. The Native Vegetation Council is an independent body established by the NV Act. The Native Vegetation Council is responsible for providing advice and making decisions about the removal and re-establishment of native vegetation in line with the act. The Council monitors the overall condition of the state's vegetation and makes decisions on a wide range of

matters concerning native vegetation in South Australia. The seven NVC members are appointed by the Governor of South Australia. They come from a range of backgrounds and have knowledge and experience in the preservation and management of native vegetation.

Natural Resources Management Boards and Council

South Australia has eight NRM regions defined in the *Natural Resources Management Act 2004*: Adelaide and Mount Lofty Ranges, Alinytjara Wilurara (taking in the Aboriginal lands of the far west), Eyre Peninsula, Kangaroo Island, Northern and Yorke, South Australian Arid Lands (covering the outback and far north), South Australian Murray-Darling Basin and the South East. South Australia's eight regional NRM boards play a central role in engaging communities and working with the State Government to decide NRM priorities, develop regional plans, and help resolve difficult challenges.

The NRM Council was established under the *Natural Resources Management Act* 2004 as the state-wide peak body for NRM. The Council works with South Australia's eight regional NRM boards, government agencies and peak bodies to implement the State NRM Plan and advises the Minister for Sustainability, Environment and Conservation on NRM matters and actions to audit, monitor and evaluate the state and condition of natural resources in South Australia. The Council also works with the regional NRM boards to ensure that their continuous review cycle and the State NRM Plan processes are aligned and cost effective.

5.6 Conclusions

- Trusted land access is the most valuable lead factor and outcome.
- Regulation for compatible, multiple-use of land in Australia is undertaken with both risks and net benefits in mind. Considerable net benefits flow from community ownership of subsurface resources when development effectively manages risks to social, natural and economic environments.
- Industry must act early to effectively engage and inform stakeholders so they can make informed decisions on activities.
- Trustworthy, efficient and effective regulation is fundamental to attracting investment with community support.
- Informed policies for land access consider net benefits from environmentally sustainable development as the benchmarks for desirable outcomes.
- The key ingredients of best practice regulation are frameworks that: elicit community trust and investor confidence; provide certainty; entail robust public consultation processes; are transparent; enable flexibility; are open to amendment; are efficient; are practical; and focus on outcomes. This amounts to an overall check-list for best practice co-regulation.
- New energy development technologies will necessitate evolutionary improvement to regulatory frameworks, and best practice regulation will continually evolve.
- A one-stop-shop approach to regulation enables co-regulators to do their jobs in parallel, rather than in series. This fosters efficiency without reducing stringent standards for ecologic, social, heritage and economic outcomes.
- Consideration is being given towards establishing online lodgement of approval documentation to further streamline regulatory processes.