

Paper 1 - Insurance and Environmental Securities

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1. Introduction

In this paper I consider in outline current practice and arrangements for insurance in the coal seam gas (**CSG**) industry and also consider some ways in which that coverage could be improved in the interests of government, landholders, the broader public and the industry itself (see Part 4)¹.

Security deposits are a feature of mining, petroleum and environmental legislation throughout Australia. Part 10A of the *Petroleum (Onshore) Act 1991 (NSW)* (the **POA**) includes a typical set of provisions. Some comments on these and similar “financial assurance” provisions are included in Part 5.

Insurance coverage and the provision of security deposits are not unrelated issues. In this paper I will consider their inter-relationship and the possibility of establishing a CSG rehabilitation fund of the kind recently established in Western Australia for the mining industry (see Part 6).

The objective of the paper then is to give an overview of various risk management techniques with a particular focus on protecting Government from the risk of operator default.

Before dealing in detail with each of the matters above I include an Executive Summary (Part 2) and some preliminary recommendations (Part 3).

2. Executive Summary

- We are advised existing insurance practice and arrangements are inadequate and that, as a rule, CSG operators in New South Wales are under-insured (relying on often inappropriate third party liability policies) or are effectively not insured at all (see generally Part 4).
- A more comprehensive form of pollution legal liability insurance is now available in the market to cover pollution and natural resource damage both on-site and off-site and for the benefit of the insured (generally the title holder or operator), third parties, and contractors. One advantage of such insurance is that gradual, long term loss and damage, for example to groundwater, can be covered. Another advantage, especially for Government, is that clean-up costs, whether undertaken voluntarily to

¹ In preparing this paper and in particular the sections dealing with insurance I acknowledge the assistance of Lionel Mintz, Environmental Manager, Asia Pacific Region, Marsh.

comply with a licence condition or mandated by a Government agency, can also be covered.

- Such insurance is not mandated under relevant legislation, although at a Minister's or other decision maker's discretion insurance can be included as a licence condition.
- Security deposits typically only cover the cost of on-site rehabilitation and closure (extending in some instances to immediately adjacent properties) and arguably are better suited to mining (and even conventional oil and gas operations) than CSG operations where the environmental damage is perhaps more likely to extend beyond a particular tenement or adjacent properties.
- "Financial assurance" (a broad term covering bonds, guarantees, insurance, sureties, indemnities and other forms of security) provides some more flexibility for operators but unless properly supervised could expose Government to unnecessary risk.
- A special purpose fidelity fund modelled on the recently established Western Australian Mining Rehabilitation Fund could well provide Government with the best means of covering the costs of remediation and rehabilitation of off-site damage caused by CSG operations.

3. **Recommendations**

I have attached a table to this paper (**Attachment**) which lists the various security and risk management techniques which I think are presently and potentially available to deal with environmental risk and liability caused by CSG operations. By reference to selected criteria, including:

- level of risk for Government
- administrative burden and complexity
- acceptance by industry
- stakeholder coverage
- coverage of past incidents

- coverage beyond a tenement or site
- capacity to reward good oil field and environmental practices
- risk identification (a criterion I explain in a footnote on page 1 of the Attachment),

I have considered how best these risks and liabilities can be met.

My preliminary conclusions and recommendations, in order of preference, are set out below:

- (a) A CSG rehabilitation fund (the Coal Seam Gas Rehabilitation Fund) be established similar to the Mine Subsidence Compensation Fund and the Western Australian Mining Rehabilitation Fund which would have the following features:
 - Coverage for remediation and rehabilitation caused by CSG operations which are “orphaned”, that is not covered by security deposits currently determined by the Office of Coal Seam Gas (**OCSG**). (The terms “orphaned” and “orphan” are used in this context to describe a well (and well site) which has not been “abandoned” according to petroleum industry usage, that is properly plugged and sealed and well out of harm’s way, but rather abandoned according to common usage).
 - Coverage for on-site remediation and rehabilitation of existing CSG operations (but possibly only if the current security deposit system is terminated).
 - Coverage for off-site remediation and rehabilitation including groundwater contamination and other long term, gradual onset damage (e.g., damage to farmland and waterways caused by produced water).
 - It will be evident from the above that a distinction will need to be made, so far as it is possible, between on-site and off-site remediation and rehabilitation and that if the security deposit system is retained (see para (c) and Part 5 below) that system might

appropriately be confined to damage directly caused by CSG operations at or near a site (say within the cleared area around a well or a little further) and include damage to the surface and sub-surface (so far as damage to the latter can in fact be identified) as well as failure to follow acceptable and agreed standards in well construction, operation and abandonment.

- Levy calculation to be determined by reference to risk factors and possibly including an exemption for low risk, small value exploration activities. (The Western Australian model should offer some guidance in this regard.).
- The calculation of the levy may be the most difficult aspect of the proposed rehabilitation fund. There is little certainty about it, although given the relative immaturity of CSG exploration in New South Wales it may not be too difficult to calculate the cost of remediation and rehabilitation of “orphan” wells and well sites in this State. More difficult will be the task of calculating the levy for planned and future operations. On the one hand, it is evident that good engineering practices supported by effective monitoring and regulation, in the management of produced water and in drilling, completing and abandoning wells, can substantially reduce, even eliminate, environmental risk. On the other hand, there are still areas where knowledge is incomplete and prediction is uncertain including groundwater connectivity, chemical contamination and fugitive emissions. Further, in areas of greater uncertainty the potential liability of operators may also be considerably higher or at least that may be the concern. A realistic approach then, as I see it consistent with the application of the “precautionary principle”², may be not to predict or even assume worst case scenarios and levy heavily but rather build up a fund with a target amount (adjustable

² There is a large body of literature and (to a lesser extent) case law regarding the so-called “precautionary principle”. It is also expressed in several different ways but for the purposes of this paper I refer to section 6(2)(a) of the *Protection of the Environment Administration Act 1991* (NSW) (the **PEAA**) where the principle is expressed as follows:

6(2)(a) the precautionary principle - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

- (i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
- (ii) *an assessment of the risk-weighted consequences of various options,*

as the industry grows and as CSG operational data and knowledge of actual risk improves) but which also recognises the following principles:

- operators can be levied at different rates according to their history and performance record (if any)
- good performance should be rewarded
- the levy could wholly or partially replace the security bond system, which should mean it will be acceptable to industry (as I understand the Western Australian experience has already shown)
- the rehabilitation fund itself could serve a quasi-regulatory function in much the same way as does an insurer's refusal to provide or renew insurance or charge a higher premium
- income of the fund to be available for orphan wells / well sites and for monitoring and preventative work
- no relaxation in operator standards and obligations (possibly including an obligation to carry adequate and appropriate insurance) and a clear understanding that the proposed fund is only intended to provide for operator default and insolvency.

- (b) Assuming a CSG rehabilitation fund is not established or only partly, consideration be given to including a requirement in legislation or a mandatory licence condition that the holder of a petroleum title take out and maintain pollution legal liability insurance for **certain** CSG exploration and **all** CSG production operations. At a minimum that policy should ideally include coverage for identified pollution and natural resource damage, cover the insured (and its operating subsidiaries) and all contractors and other service providers on site, for example by nomination or as co-insureds, cover actions and directions by Government (for example, to remediate or rehabilitate a site or other area or resource) and extend beyond a tenement or particular site.

Given, as I understand, the market for such policies is only now developing, some further work will need to be undertaken to determine the general availability and cost of such policies.

It also does need to be recognised some operators may default in paying premiums or in complying with insurance policy conditions, that ensuring compliance by operators can be difficult, costly and time consuming for responsible Government agencies and that in an area of such complexity it is difficult to be overly prescriptive.

- (c) Subject to one or other of the recommendations in (a) and (b) above, security deposits in their current form be retained at least for the time being (say two to five years) with the following qualifications:
- in particular cases the amount secured may be reduced and/or apply to cover only on-site rehabilitation costs
 - companies with a sounder financial record and backing, established links to the State, a better operational and risk management record and operating and planning to use more advanced technology (e.g., horizontal drilling; no or minimal fracking) and in areas of less risk (e.g., no or minimal expected aquifer interference) could be rewarded by paying a lower security or by being given the option of providing another form of “financial assurance” (including insurance as described above), possibly in combination with a minimum cash or bank guarantee requirement.
- (d) It will be evident that I do not recommend retention of the current security deposit system on its own. As a separate exercise and subject to the adoption of one or a combination of the schemes described above, consideration be given to introducing a wider range and more flexible forms of “financial assurance”.
- (e) Finally, I note that with the possible exception of a CSG rehabilitation fund no one security and risk management scheme or technique would seem to offer a complete solution to dealing with the risk of CSG environmental harm and liability.

I think the recommendations above and my evaluation of their relative advantages and disadvantages, more particularly as set out in the Attachment, will need to be tested and should be critically reviewed. My observations and judgements are in places necessarily subjective and impressionistic. I also think there is scope for development of hybrid models, involving best elements of one or two schemes especially over the short term, say over two to five years, and while the actual level of CSG environmental risk is being assessed and more knowledge, data and information are obtained.

4. **Insurance**

I deal with insurance in detail first in this paper because I was originally asked to consider the types of insurance available to CSG participants and only later did our inquiry extend to other risk management techniques.

4.1. **Existing insurance arrangements**

Marsh advises CSG risk in New South Wales (and Australia generally) is under-insured and in some cases not insured at all. Other than as advised by Marsh and another major insurance broking firm we have only limited information about the actual level and specific types of insurance CSG industry participants do now carry or will likely take out if their operations expand. I have also separately provided you with a copy of a form of policy issued by Ironshore Specialty Insurance Company titled "Site Pollution Incident Legal Liability Select (Spills) Oil and Gas Form", which I understand is generally available for oil and gas operations in the U.S.A.. I think it would be helpful to collect more of this information.

Certainly it is clear there is no CSG industry standard approach to insurance and according to Marsh little demand, except from several larger companies, for more comprehensive insurance to cover CSG risk. I also understand several insurers have been asked to quote on more comprehensive pollution liability coverage but at this stage there has been no significant uptake of that kind of insurance cover.

As I understand, many CSG operators are likely to hold a third party liability (TPL) policy which would generally have the following features:

- it may extend to cover pollution but only if such pollution is characterised as sudden, accidental, unintended, unexpected and happening at a specific and identifiable time and place
- coverage does not generally extend to “natural resource damage”
- such insurance is generally only available to cover loss or damage to third parties (i.e., it will not cover loss to the insured, in effect the “first party”, and it may well be difficult for an insured to obtain appropriate insurance for contamination to its land, for example under an industrial special risks or property insurance policy)
- actions by regulators (including costs in complying with orders and directions to restore or rehabilitate a site) are often not covered
- coverage of business interruption will generally only be available if the pollution falls within the description above (i.e., sudden, accidental etc.)
- the level of coverage, although generally negotiable, may be inadequate (as low as \$5 to 10 million for smaller operators).

In particular, a TPL policy is not appropriate nor is it targeted to cover gradual onset, off-site groundwater contamination, which is the main perceived risk of CSG operations identified by the insurance industry.

Another type of insurance cover relevant to our inquiry is “operator’s extra expense” or “control of well” cover, which has a specific application to “blowouts” and the costs involved in regaining control of a wild or uncontrolled well, including seepage, pollution and direct clean-up and containment costs. The trigger for coverage is an unintended flow from a well of oil, gas, water, drilling fluids, proppants and chemicals which cannot be stopped promptly, for example by a blowout preventer. Again, however, the focus is on the consequences of a sudden and accidental pollution event rather than addressing the effects of gradual pollution and contamination. Separate and more specific coverage is also available for drilling operations (e.g., loss of tools downhole).

4.2. **Pollution Legal Liability Insurance**

Marsh advises some of the larger and more specialised insurers (e.g., AIG, ACE and XL (Australia), Chubb, Lloyds, Ironshore and QBE (UK) and Zurich (US)) do now offer more comprehensive, targeted and flexible pollution legal liability insurance policies which indemnify CSG risk (including groundwater contamination) and also have the following features:

- coverage can extend to most forms of pollution, both on-site and off-site, and including both gradual and sudden events
- coverage can extend to natural resource damage
- coverage can extend to first party loss (e.g., the clean-up costs of an operator and business interruption losses) as well as third party loss
- actions by regulators (including costs in complying with orders and directions to restore or rehabilitate a site and other affected property) can be covered
- typically, the main policy proponent is the permit/licence holder/operator but contractors and other service providers can effectively be joined as co-insureds or by nomination
- coverage can sometimes be available for civil/pecuniary penalties, although this is problematic in Australia as such indemnity protection is generally regarded as contrary to law or public policy (n.b., criminal fines and penalties are not covered)
- coverage is available for \$50 million plus.

Another advantage of a pollution legal liability policy (as opposed to a less flexible, generic and cheaper TPL policy) is that it is generally only written if the insurer has a better understanding and satisfies itself as to the insured's claims history, environmental record, planned operations, technical skills and supervision, and systems of operation (e.g., risk management and use of latest technology and drilling systems).

In addition, insurers under these policies:

- typically require levels of risk to be more thoroughly assessed and quantified (so far as that is possible) than would be the case for a TPL policy
- and may be more vigilant in identifying risks which are excluded (possibly giving the insured an opportunity to address or mitigate risks to obtain coverage).

In effect, such insurance provides a limited self-regulation system with “penalties” (i.e., higher premiums and the risk of policy non-renewal) if an insured does not comply with policy requirements.

4.3. **Statutory Requirements for Insurance and Financial Assurance**

The POA does **not** include any requirement that the holder of any form of petroleum title (including exploration licences (PELs), assessment leases, production leases (PPLs) or special prospecting authorities) take out or maintain insurance over the duration of the title and possibly also to cover a “tail” (in the latter case if the policy is a “claims made” rather than an “occurrence” based policy).

I think it would be helpful to interrogate both the OCSG and the Environmental Protection Authority (**EPA**) whether, as a matter of practice or in exceptional cases, insurance requirements are included in standard form PEL/PPL documents and environmental protection licences, noting in the latter case section 72 of the *Protection of the Environment Operations Act 1997* (NSW) (the **PEOA**) does provide as follows:

72 The conditions of a licence may require the holder of the licence to take out and maintain a policy of insurance for the payment of costs for clean-up action, and for claims for compensation for damages, resulting from pollution in connection with the activity or work authorised or controlled by the licence.

Even if such insurance is required it may not extend beyond on-site rehabilitation and is unlikely to offer the same level of coverage as a pollution legal liability policy of the kind described above.

Section 571 of the *Offshore Petroleum and Greenhouse Gas Act 2006* (Cth) (the **OPGGA**) (amended in May 2013 – see schedule 3 to the *Offshore Petroleum and Greenhouse Gas Storage Amendment (Compliance Measures No. 2) Act 2013* (Cth)) goes further inasmuch as it provides that the holder of a petroleum title **must** at all times while the title is in force maintain sufficient “financial assurance” to meet costs, expenses and liabilities arising in connection with, or as a result of, carrying out a petroleum activity, the doing of any other thing for the purposes of a petroleum activity or complying (or failing to comply) with any requirement under the OPGGA in relation to a petroleum activity. Examples given in the provision itself include covering the cost of dealing with the escape of petroleum and remediation of damage to the seabed or subsoil.

“Financial assurance” includes insurance and in addition self-insurance, bonds, cash deposits with a financial institution, indemnities and other sureties, letters of credit from a financial institution and mortgages (or any combination of these forms of security).

In its context it seems such insurance is, potentially at least, a substitute for a security deposit and, although financial assurance is compulsory and relates generally to a “petroleum activity” for offshore petroleum (i.e., non CSG) operations, it is possible such insurance may fall short of the coverage provided under a pollution legal liability policy.

The PEOA (and the *Environmental Protection Act 1994* (Qld)) also includes detailed provisions for “financial assurance” as a condition of environmental protection licences (and environmental authorities), although in each case the type of financial assurance appears to be fairly limited (see, for example, section 298(2) of the PEOA which refers to a bank guarantee, a bond and “another form of security that the appropriate regulatory authority considers appropriate and specifies in the condition” [of the licence]).

One generally acknowledged difficulty of mandatory insurance is that there can be no guarantee operators will continue to pay their premiums or comply with policy conditions. Ensuring the policy meets minimum standards of coverage can also be problematic. To some extent this can be addressed by the threat of licence cancellation or forfeiture but it does underline the need for “back-up” forms of security, a matter considered in more detail in Part 5.

4.4. Further observations on insurance

In this paper I was asked and have focused on the main types of insurance available to CSG industry participants to protect against environmental risk and damage, specifically pollution liability and third party liability insurance. A more complete review of the topic would also include references to directors' and officers', workers' compensation, product liability and professional liability insurance and a range of specialty policies available to drilling companies and other service providers.

The range and complexity of insurance policies, including the scope to amend and vary those policies with endorsements, exceptions and special wording and drafting necessarily means insurance is difficult to regulate and the search for a model form of insurance or suite of insurance products may well be elusive. It also points strongly to the fact insurance is not a substitute for proper regulation nor a complete solution to risk management in the CSG industry.

Finally, I note some industry participants could well argue in a particular case their own insurance coverage, however inadequate it may seem to insurers and insurance brokers, is sufficient, for example because they are only engaged in limited exploratory work, observe safe and proven drilling and well integrity practices and/or have a strong record of environmental compliance. In the case of the larger companies (and especially the oil majors) they may also prefer to rely on self-insurance or seek a larger excess on their policies. In such cases it may be appropriate to cover the risk of those operators by other means, for example by a higher security deposit or a different mix of financial assurance products (see Parts 4.3 and 5).

5. Security Deposits

Part 10A of the POA provides that the Minister may impose a condition requiring the holder of a petroleum title to give and maintain a security deposit for the fulfilment of the holder's obligations under the Act in respect of the title (including obligations that may arise in the future) and to maintain that security deposit until those obligations are fulfilled (see section 106B(1)).

The security deposit may be in such form as the Minister determines, although typically a cash deposit or unconditional bank guarantee is required³. The minimum amount for a security deposit is \$10,000 (see Reg 24A, *Petroleum (Onshore) Regulation 2007* (NSW)).

One shortcoming of the security deposit model is that it likely does not cover the rehabilitation of land which may lie at some distance from a petroleum title, a matter which will need to be confirmed by OCSG. I also understand in practice the rehabilitation of adjoining land is covered. That may be because the provisions are largely based on or are at least similar to provisions in mining legislation (e.g., Parts 11 and 12A of the *Mining Act 1992* (NSW)). The obvious point to make about conventional mining and exploration, as opposed to unconventional gas production and exploration, is the effects of the former are largely (but not always) confined to the title or at least its immediate vicinity. That may not be the case with CSG exploration and production, where if environmental damage occurs (e.g., escaped chemicals, aquifer damage, the uncontrolled flow of produced water) its impact may in fact be more damaging and costly well beyond the title and even its adjoining land.

Despite the wide wording of section 106B(1) of the POA, as I understand, security deposits are generally only required and available to cover estimated rehabilitation costs on-site and to adjoining land with added amounts for project management (10%), monitoring (5%) and contingency (10%) (see the Department of Trade and Investment's publication, *ESG1 Rehabilitation Cost Estimate Guidelines*).

As noted, the requirement for adequate "financial assurance" may also be included in an environment protection authority issued under the PEOA. Such an authority is required for CSG operations in addition to a petroleum title. (I do not know whether as a matter of practice such financial assurance is required by the EPA if a security deposit has been provided under the POA, although I know the practice in some States is not to require more than one security deposit covering

³ As a rule NSW regulators have only accepted cash bonds or bank guarantees although there is limited scope for the Minister to accept a security deposit in another form (see section 106B(1) of the POA). Further, section 1.3 of *ESG1: Rehabilitation Cost Estimate Guidelines* states Investment and Industry NSW is willing to accept other forms of security deposit proposed by industry provided there is no additional risk to the NSW Government, funds are available when required by the Minister and maintenance of the deposit is not dependent on subsequent actions by industry (e.g., periodic insurance instalments). I also note that Swiss Re International Ltd through Assetinsure Pty Ltd is presently seeking approval from the Australian Prudential Regulation Authority for a new form of (non-bank) bond which can be offered on an unsecured basis with deposits payable in instalments over a period of 5 years up to 50% of the bond amount, thereby freeing up working capital. Note also the requirements of NSW Treasury Circular TC 14/01 titled "Acceptance of Performance Bonds or Unconditional Undertakings by Government Agencies".

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essentially the same risks.) This requirement appears both broader and more flexible than the requirement in the POA for security deposits in so far as:

- financial assurance may take the form of a bank guarantee, bond or any other form of security the EPA considers appropriate and specifies in the licence as a condition; and
- given an EPA security deposit (if required) generally relates to an identified project rather than to an identified title or titles it may extend beyond remediation and rehabilitation of the site,

although both these comments would need to be checked and confirmed following discussion with the OCSG and the EPA.

6. **Special Purpose Fidelity Funds**

6.1. **Available securities**

It will be evident from the analysis above that pollution legal liability insurance provides a level of protection beyond that offered by compulsory security deposits, more particularly as the main purpose of security deposits is only to provide for on – site (and limited adjoining land) rehabilitation if the operator is in default or insolvent.

Provisions in Queensland onshore petroleum legislation and Commonwealth offshore petroleum legislation also suggest in many respects wide-reaching “financial assurance” provisions can take the place of, or at least supplement, more narrowly focused security deposit provisions.

6.2. **Establishment of a special purpose fidelity fund**

A further possibility is the establishment of a CSG rehabilitation fund similar to the Mining Rehabilitation Fund (the **MRF**) established in Western Australia under the *Mining Rehabilitation Fund Act 2012* (WA) and commencing as recently as 1 July 2013.

The MRF replaces the current system of individual or mine specific bonds with a rehabilitation fidelity fund supported by levies imposed on the industry.

In effect, tenement holders are now able (and from 1 July 2014 will be required) to pay an annual non-refundable fee or levy equivalent to 1% of their rehabilitation

liability to a central fidelity account administered by the WA Department of Mines and Petroleum (the **WADMP**).

Some features and advantages of the MRF are:

- Pooling contributions to the MRF means the State (Western Australia) can apply the fund to any long abandoned mine (or “derelict mine” as it would be described in New South Wales) rather than relying on consolidated revenue or a largely Government supported fund such as the NSW Derelict Mine Sites Fund (see generally Part 11, Division 3A of the *Mining Act* 1992 (NSW)).
- The fund is better suited to remediating off-site, cumulative and long term environmental effects of mining and not just tenement or project specific rehabilitation.
- In Western Australia it has been estimated only 25% of rehabilitation costs are in fact covered by bonds and it is hoped the MRF will provide that State with an opportunity to build up a fund of \$500 million representing 100% of its contingent rehabilitation costs. (I understand the position in New South Wales is not so serious but this should be checked).
- The MRF has received widespread industry support with approximately 300 mining companies electing to participate in the voluntary one year “opt in” period (FY 2013/2014), the reason being the MRF is regarded as cheaper, in particular because it does not require operators’ capital to be tied up in cash or cash-backed unconditional bank guarantees.
- Given most mining companies fulfil their rehabilitation and closure obligations, in the usual case deposits are fully refunded. This also means annual fees under the MRF over the life of a mine will likely only need to equate to 8 to 10% of total estimated rehabilitation costs for individual mines.
- Small operators are exempt (i.e., holders of tenements with a rehabilitation liability estimate below \$50,000 must report disturbance data but will not be required to pay a levy to the MRF).

- Each mining operator still has a statutory obligation to fund its rehabilitation and closure costs, with the MRF only funding rehabilitation and closure on sites where an operator cannot or will not do so.

I think a fund of the kind described above could be a very attractive alternative or supplement to the current security deposit system operating in New South Wales for CSG operators, especially as the main concern about such operations is off-site, long term and cumulative effects of CSG operations, particularly in regard to water management, aquifer interference and groundwater contamination, and not immediate on-site physical damage. Indeed, it seems to me there is a more compelling case for a CSG rehabilitation fund than a mine rehabilitation fund. There is also a useful model or precedent for such a fund in New South Wales, namely the Mine Subsidence Compensation Fund administered by the Mine Subsidence Board. Another point of reference may be the US *Comprehensive Environmental Response, Compensation, and Liability Act* (“CERCLA”), commonly known as Superfund, which does however (controversially) include an oil and natural gas exemption.

Very often security deposits are relied upon only at the point of mine closure and when it is evident the operator will not be able to fulfil its obligations. A fund may well be a better means of paying for ongoing and continuing costs of rehabilitation and remediation (assuming the operator is obliged to but does not pay those costs), including monitoring and necessary preventative work. It is also possible the income earned by the special purpose fund could provide some or all of the funds needed for such monitoring and preventative work.

It also seems to me that adoption of a CSG rehabilitation fund, especially if it is structured to reward good oil field and environmental practices, will more likely satisfy the Government’s own objective of “ecological sustainable development” than the existing security bond system. The term “ecologically sustainable development” is described in section 6(2) of the PEAA as requiring “the effective integration of economic and environmental considerations in decision-making processes” and along with the “precautionary principle” (referred to above) and the principle of “inter-generational equity” relevantly includes a reference to the following:

- (d) *improved valuation, pricing and incentive mechanisms - namely, that environmental factors should be included in the valuation of assets and services, such as:*
- (i) *polluter pays - that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
 - (ii) *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
 - (iii) *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

In its Preliminary Discussion Paper, *Policy Options for Mining Securities in Western Australia, December 2010*, the WADMP envisaged as a further possibility a combination of the two models (i.e., bonds and rehabilitation fund) and an insurance model (see further below). The legislation (see above), however, provides only for the rehabilitation model over the longer term. Two commentators have proposed a hybrid scheme with bonds being retained alongside the MRF but set at less than 100% of potential liability, their argument being the abolition of bonds will effectively leave the State as an unsecured creditor of insolvent companies which are unable to meet their mining rehabilitation and closure obligations. In effect, the bond system could be retained as a baseline security system which relates to a particular project or tenement identified as being at risk (e.g., because of the financial strength or otherwise of the operator and particular risks associated with the project itself) while the MRF provides a pool of funds for remediating the cumulative and long term effects of mining⁴. By analogy, in the case of CSG exploration and production a reduced security bond could be relied only for immediate well site damage and the proposed CSG rehabilitation fund could be used for remediating the cumulative and long term effects on the environment beyond the well site or affected title.

⁴ N Somner and A Gardner, *Environmental Securities in the Mining Industry: A Legal Framework for Western Australia*, 31(3) 2012 ARELJ 242
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6.3. Insurance for mine closure and rehabilitation

Finally, I note the WADMP rejected a third model which would have required operators to take out and maintain insurance, with the State named as a beneficiary and covering the full cost of government undertaking the closure and rehabilitation of a mine site. The model was rejected because:

- evidence indicated such insurance may not be available in Australia (Marsh advises that is no longer the case.)
- insurance policies are not unconditional (cf. bank guarantees) and are typically subject to exemptions
- such insurance only remains current if premiums are paid (a matter Government cannot easily control or supervise)
- policies may be cancelled or not renewed without reference to Government.

To be clear, the rejection of this model should not be understood as a repudiation of the proper and appropriate role of pollution legal liability insurance (as described in Part 4) nor necessarily as a rejection of insurance as one component in a mining security or as part of a financial assurance requirement.



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