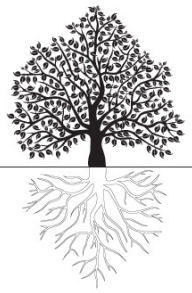
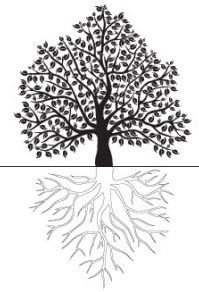


China Coal's northern NSW coal and CSG project

by Marylou Potts Pty Ltd
21 May 2012



Scenario

China Coal (**CC**) which wishes to develop a coal mine in Northern NSW, including an integrated operation for the recovery of coal seam gas. The Minister for Planning holds a press conference in which he expresses support for "such an important investment". China Coal, buoyed by the positive response from the Minister, wishes to begin developing its chosen site immediately. This paper outlines:

1. the regulatory requirements (State and federal) for environmental assessment and approval of such a project in NSW
2 the legal obligations of the consent authorities in dealing with such an application
3. the rights of the public to participate in, and challenge consent for such a project
4 the role of the courts, should such a challenges arise

Assumptions

- CC's development does not cover land in a state or national park.
- CC will be applying for exploration licences and exploring before it commences mining or production activities.
- CC will be able to receive a grant of both a mining exploration licence and a petroleum exploration licence over the same area of land
- CC will be able to gain access to that land with the agreement of the relevant landholder(s).
- CC will initially apply for both a PEL and a MEL over the same area, then seek development consent as an SSD of coal mining and if applicable apply for consideration and approval under the EPBC Act, and with development consent as an SSD, apply for a Mining Lease (**ML**) which must then be granted.
- CC will then seek an amendment to its ML to include petroleum .
- This paper will not consider land access, or the landholder rights in relation to land access, or landholder's rights generally except in relation to public participation, and will not consider the recent NSW Draft Strategic Agricultural Land Policy or the related policies currently under consideration and subject to public comment[1].

[1] http://haveyoursay.nsw.gov.au/regionallanduse

Regulatory requirements

Coal exploration and production are governed by the Mining Act 1992 (NSW) (**Mining Act**). A coal mining project generally begins with an exploration licence. If commercial quantities of coal are found a miner can apply for a mining lease to mine the coal. The environmental assessment involved with the mining activities increases with the relative impact on the environmental of the mining activities.

Coal seam gas [2] exploration and production is governed by the Petroleum (Onshore) Act 1991 (NSW) (**Petroleum Act**) unless the holder of a coal mining lease makes an application for the inclusion in the lease of petroleum.[3] This inclusion is not available in petroleum exploration unless approved by the Minister under either the Petroleum Act or under the Mining Act[4], and as such if China Coal wished to explore for petroleum while it was exploring for coal, it will also require an exploration licence under the Petroleum Act.

Most coal and petroleum exploration is exempted from the requirement to obtain development consent before they commence[5]. However, under the terms of the exploration licences, whether for coal or for petroleum, certain categories of activity require the licensee to lodge a review of environmental factors (**REF**), and if the impact is determined to be significant by the Department, an environmental impact statement (**EIS**), and receive approval under Part 5 of the Environmental Planning and Assessment Act 1979 (NSW) (**EP&A Act**) before those activities can be commenced. Typically any drilling, petroleum seismic surveying, coal bulk sampling will require an approved REF before commencing activities.

All coal mining and petroleum production, and certain intensive petroleum exploration and coal exploration bulk sampling[6] are categorised as state significant development (**SSD**)[7], and as such require development consent before they may proceed. Both assessment and determination of SSD's occurs under the Part 4 of the EP&A Act[8]. If development consent is given for an SSD, an authorisation of a mining lease or a production lease, cannot be refused[9]. The application must be accompanied by an EIS[10]. If there is going to be aquifer interference[11], China Coal will also need to apply for an aquifer interference approval, and an aquifer access licence which will require China Coal to demonstrate in both instances that less than minimal harm will be caused to the aquifer.

Overlying state environmental assessment, sits the Environment Protection Biodiversity Conservation Act 1999 (Cth) (**EPBC Act**) which applies if there is to be a significant impact on a matter of national environmental significance[12] (**MNES**). The EPBC lists MNES. If an activity is likely to have a significant impact on a MNES (a "controlled action"), an environmental assessment[13] must be carried out and determined by the Commonwealth (**Cth**) Environment Minister.

---

[2] Defined as petroleum section 3 Petroleum Act

[3] Section 78 Mining Act 1992 (NSW)

[4] Section 7(2) Petroleum Act

[5] Part 4, Section 76 EP&A Act and SEPP (Mining, Petroleum Production and Extractive industries) 2007 clause 6(a) and (d) Development for any of the following purposes can be carried out without development consent: (a) mineral exploration and fossicking, … (d) petroleum Exploration

[6] Eg Greater than 5 wells within 3km of another well in the same tenement. SEPP 2011 Schedule 1 Clauses 5(1)(a),(2) and 6(1), (2), (3)

[7] EP&A Act Part 4 section 89C(1) declared to be SSD, or (2) declared in a State Environmental Planning Policy (**SEPP**), SEPP (State and Regional development) 2011 (**SEPP 2011**)

[8] The replacement of former Major projects under Part 3A of the EP&A Act repealed in 2011 effective 1 October 2011 under the Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011

[9] Section 89K(1)(c) and (d) EP&A Act

[10] Section 89E EP& A Act

[11] Assuming the area is governed by the Water Management Act 2000 (NSW) (**WMA**) ie there is a water sharing plan in effect over the area, and in North West NSW ie the Bellata Gurley area, there is no Water sharing plan currently in place but one is expected mid this year (mid 2012). In these instances, the matter is dealt with by the Water Act 1912 (NSW). If the WMA applies, the minister is not to grant an aquifer interference approval unless it can be shown that less than minimal harm will be caused to the aquifer by the activity (s97(6) WMA).

[12] Part 3 EBPC

[13] Poisel 2012 p145

Consent authorities obligations
Consent authorities must comply with not only their obligations in legislation but also at common law otherwise their decisions can be challenged and found to be invalid. This paper will outline those obligations.

Public participation
At each stage of a project such as this, the legislation and the common law allow for the possibility of public participation, under the legislation, in most instances it is to “any person”, at common law it will to persons who have the necessary standing.

Role of the courts
The NSW state Land and Environment Court and the Federal Court both may potentially play a role in the administration of justice and protection of the environment in any coal and coal seam gas project in NSW. There may be either merits reviews or judicial review in the LEC, and judicial review in the Federal Court in relation to the application of the EPBC Act 1999 (Cth).

1 Introduction

This paper will consider the regulatory requirements for environmental assessment at each stage of CC's project, the obligations of consent authorities in relation to that environmental assessment, the rights of the public to participate in the assessment process and the role of the courts in that process.

2 Mining Act 1992 (NSW) and Petroleum (Onshore) Act 1991 (NSW)

2.1 Coal in NSW governed by the Mining Act

Exploration and mining of minerals, which includes coal[14], is governed in NSW by the Mining Act 1992 (NSW). Most coal in NSW is owned by the NSW Government, however there are instances in relation to certain properties where Crown reservation of the coal did not occur in the original grant of the land by the Crown, in these instances the Mining Act continues to apply but over the coal as a "privately owned mineral". We shall assume for the purposes of this paper that the coal is owned by the Crown.

2.2 Coal seam gas governed by the Petroleum Act

Coal seam gas exploration and production on land in NSW is governed by the Petroleum (Onshore) Act 1991 (NSW) and all petroleum is owned by the Crown[15].

3. Environmental Assessment of coal and CSG projects in NSW

3.1 Before the grant of an exploration licence and on renewal the Minister must consider the environment

Based on the Assumptions set out in the beginning of this paper, CC must[16] lodge applications for both a coal exploration licence (**MEL**) and a petroleum exploration licence (**PEL**) over the same area of land[17] if it wishes to explore for coal seam gas and coal. It may not explore for CSG under a MEL, and so must at this stage have a PEL.

The first consideration of aspects of the environment in relation to coal and CSG operations occurs under both the Mining Act and the Petroleum Act where the Minister must consider preservation and conservation of certain things in the environment in its consideration of an application for a MEL[18] and a PEL[19] and may impose certain conditions in the licence to ensure environmental protection and conservation during the

[14] See Schedule 2 of the Mining Regulation 2010 (NSW) groups minerals into classes and coal sits within Class 9 with shale oil.
[15] Section 6 Petroleum Act
[16] Each Act makes it an offence to prospect or mine for either minerals or petroleum without the appropriate authority from the State: s7 Petroleum Act, s5 Mining Act
[17] Because despite the ability to amend a coal mining lease to include petroleum (S78 Mining Act), it is not possible to do the same with the coal exploration licence.
[18] Part 11 Protection of environment Mining Act s237
[19] Part 6 Protection of the Environment Petroleum Act s74

undertaking of prospecting operations pursuant to such licences.[20] The types of conditions[21] one finds in PELs and MELs can be found on the Division of Energy and Resources website[22] .

3.2 Environmental assessment when CSG PEL and coal MEL have been granted

After the grant of the licence, there are further regulatory requirements for environmental assessment. The nature of the environmental assessment in exploration depends on the nature of the activity CC wishes to undertake. This environmental assessment occurs pursuant to the Environmental Planning and Assessment Act 1979 (NSW), initially under Part 5 and possibly, provided the activity satisfies the criteria for an SSD, under Part 4 of the EP&A Act.

As indicated, certain conditions of the licence relate to the protection and preservation of the environment. In a PEL and a MEL, prospecting operations are categorised into 3 categories with increasing surface disturbance. Generally all Category 1 activities may be commenced and undertaken without further environmental assessment or approval. Category 1 activities for a MEL include geological mapping, airborne surveys, sampling and coring using hand held equipment, minor clearing or cutting of vegetation. Certain Category 2 activities and all Category 3 activities require CC to submit a surface disturbance notice and a review of environmental factors (**REF**) which complies with the Department's guidelines[23], for approval by the Department, under Part 5 of the EP&A Act, and have those proposed activities approved before commencing operations. Typical Category 2 activities in a MEL are seismic surveys, camp construction, and Category 3 activities in a MEL and PEL are shaft sinking or tunnelling, drilling holes in excess of 400mm diameter, intensive drilling for resource definition.

A REF is an environmental assessment required to be undertaken by CC under Part 5 of the EP&A Act. A REF is not a statutory term, and is not referred to in the legislation. "It is a term that has developed over the years in relation to particular processes of environmental assessment."[24] in response to a "determining authority's"[25] duty to consider the environmental impact of "matters affecting or likely to affect the environment" under section 111 of the EP&A Act. Section 111 of the EP&A Act requires

---

[20] Section 237 Mining Act "In deciding whether or not to grant an authority .. the Minister … is to take into account the need to conserve and protect: (a) the flora, fauna, fish, fisheries and scenic attractions; (b) the features of Aboriginal architectural archeological historic or geological interest …". Section 238 Inclusion of conditions for protecting the environment Mining Act "The conditions subject to which an authority .. is granted or renewed must, if the Minister considers it appropriate, include conditions relating to the conservation and protection of (a) the flora, fauna, fish, fisheries and scenic attractions; (b) the features of Aboriginal architectural archeological historic or geological interest Petroleum Act ss74 and 75 are very similar.

[21] As a matter of practice, the Department of Resources and Energy consults with and includes conditions suggested by other departments or public authorities such as relevant catchment authorities.

[22] http://www.dpi.nsw.gov.au/minerals/titles/mining-warden

[23] See NSW Department of Resources and Energy ESG2: Environmental Impact Assessment Guidelines … Including content requirement for Review of Environmental Factors

[24] See p1 of DECC Proponents Guidelines for Review of Environmental Factors

[25] Defined in s110 Ep& A Act which would include the Minister of Resources and Energy or his Department "whose approval is required in order to enable the activity to be carried out" ie under the MEL and PEL such approval is required for certain activities.

111 Duty to consider environmental impact

*(1) For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a **determining authority** in its consideration of an activity **shall**, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, **examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity**.*

This section goes on to set out what must be considered by the determining authority and these matters are reiterated in the Department's guidelines for preparation of a REF[26] and include

(2) Without limiting subsection (1), a determining authority shall consider the effect of an activity on:
- *(a) any conservation agreement entered into under the National Parks and Wildlife Act 1974 and applying to the whole or part of the land to which the activity relates, and*
- *(b) any plan of management adopted under that Act for the conservation area to which the agreement relates, and*
- *(c) any joint management agreement entered into under the Threatened Species Conservation Act 1995, and*
- *(d) any biobanking agreement entered into under Part 7A of the Threatened Species Conservation Act 1995 that applies to the whole or part of the land to which the activity relates.*

(3) Without limiting subsection (1), a determining authority shall consider the effect of an activity on any wilderness area (within the meaning of the Wilderness Act 1987) in the locality in which the activity is intended to be carried on.

(4) Without limiting subsection (1), a determining authority must consider the effect of an activity on:
- *(a) critical habitat, and*
- *(b) in the case of threatened species, populations and ecological communities, and their habitats, whether there is likely to be a significant effect on those species, populations or ecological communities, or those habitats, and*
- *(c) any other protected fauna or protected native plants within the meaning of the National Parks and Wildlife Act 1974.*

Approval of the REF and the conditions of the approval are generally issued by the Director General of Planning.

If the surface disturbance notice, which is required to be submitted with the REF, indicates to the Department that the disturbance is likely to be "significant", the Department may also require CC to submit an environmental impact statement (**EIS**)[27]. The EIS must also be submitted in the form and manner required by the Department.[28]

---

[26] ESG2: Environmental Impact Assessment Guidelines For exploration, mining and petroleum production activities subject to Part 5 of the Environmental Planning and assessment Act 1979 including requirements for a review of environmental factors

[27] Note EP&A Act s112(1)(a) and EP&A Regulation Part 14 EIS under Part 5 requirements

[28] See s112 EP&A Act and ESG2 © 2012 which supersedes April 2000 http://www.planning.nsw.gov.au/DevelopmentAssessments/RegisterofDevelopmentAssessmentGuidelines/tabid/207/language/en-US/Default.aspx

Further environmental assessment and development consent is required for intensive bulk sampling of coal under a MEL and for intensive drilling operations under a PEL, when the operations fall within the definition of State Significant Development (**SSD**). Otherwise, unless the activities can be categorised as designated development (**DD**), no development consent under Part 4 of the EP&A Act is required as provided in SEPP 2007, which at clause 6 Development permissible without consent states

> *Development for any of the following purposes may be carried out without development consent*
> *(a) mineral exploration and fossicking*
> *…*
> *(d) petroleum exploration …*

3.3 State significant development (SSD)

State significant development is defined in Division 4.1 of the EP&A Act.

> ***Section 89C Development that is State Significant Development***
>
> *(1) For the purpose of this Act, SSD is development that is declared under this section to be SSD.*
> *(2) A State environmental planning policy may declare any development … to be SSD.*
>
> ***SEPP (State and Regional Development) 2011 (SEPP 2011)***
> *Clause 8(1)(b) provides Development is declared to be SSD for the purposes of the Act, if the development is specified in Schedule 1 or 2.*
>
> ***Schedule 1 Clause 5 Mining SEPP 2011***
> *(1) Development for the purpose of mining that:*
> *(a) is coal or mineral sands mining[29], or*
> *…*
> *(2) Extracting a **bulk sample** as part of resource appraisal of more than 20,000 tonnes of coal or of any mineral ore.*
>
> *(3) Development for the purpose of mining related works (including primary processing plants or facilities for storage, loading or transporting any mineral, ore or waste material) that:*
> *(a) is ancillary to or an extension of another State significant development project, or*
> *(b) has a capital investment value of more than $30 million.*
>
> *(4) Development for the purpose of underground coal gasification.*
>
> ***Schedule 1 SEPP 2011 Clause 6 Petroleum (oil and gas)***
> *(1) Development for the purpose of petroleum production.[30]*
>
> *(2) Development for the purpose of drilling or operating **petroleum exploration wells**, not including:*
> *(a) stratigraphic boreholes, or*
> *(b) monitoring wells, or*

[29] Generally the application of the SSD requirements come into play in the mining lease phase rather than the exploration phase except the taking of bulk samples for resources appraisal is an exploration activity under the MEL see para 2 of Clause 5 Schedule 1 SEPP 2011.

[30] Likewise for petroleum, the SSD provisions generally only come into play at the petroleum Production lease phase of the development, however as set out in para 2 and 3 of Clause 6 Schedule 1 SEPP 2011, the SSD provisions do come into operation in petroleum exploration with 6 or more wells within 3km of another well in the same title. In this respect note the definition of petroleum production in SEPP 2007 which states it is pursuant to a production lease.

(c) a set of 5 or fewer wells that is more than 3 kilometres from any other petroleum well (other than an abandoned petroleum well) in the same petroleum title.

*(3) Development for the purpose of drilling or operating **petroleum exploration wells** (not including stratigraphic boreholes or monitoring wells) that is carried out in an environmentally sensitive area of State significance.*

(4) Development for the purpose of petroleum related works (including pipelines and processing plants) that:
(a) is ancillary to or an extension of another State significant development project, or
(b) has a capital investment value of more than $30 million.
(d) wood preservation,
(e) charcoal plants,

(5) In this clause, petroleum production has the same meaning as it has in State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007[31]*.*

As SSD, the provisions of Division 4.1 of the EP&A Act apply. Section 89D of the EP&A Act provides that the Minister is the consent authority for SSD. Section 23 of the EP&A Act provides the Minister may delegate the consent authority function to the PAC, the DG or to any other public authority.

When a development becomes an SSD, certain ordinarily applicable approvals no longer apply. These are set out in s89J Approvals etc legislation that does not apply.

(1) The following authorisations are not required for SSD that is authorised by a development consent granted after the commencement of the Division (and accordingly the provisions of any Act that prohibit an activity without such an authority do not apply):

…

(e) an authorisation referred to in section 12 of the Native Vegetation Act 2003 (or under any Act repealed by that Act) to clear native vegetation or State protected land,

(f) a bush fire safety authority under section 100B of the Rural Fires Act 1997,

(g) a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.

The process for obtaining development consent is set out in Division 2 of Part 4 of the EP&A Act. In short, this includes that CC:

- submit an application complying with s78A EP&A Act which needs to comply with s89G and the regulations
- the application is then put on public exhibition for the public to submit objections s89F(1)(a)
- there is then a consultative period of 30 days

[31] "petroleum production" means the recovery, obtaining or removal of petroleum **pursuant to a production lease** under the Petroleum (Onshore) Act 1991 or a production licence under the Petroleum (Submerged Lands) Act 1982 , and includes:
(a) the construction, operation and decommissioning of associated petroleum related works, and
(b) the drilling and operation of wells, and
(c) the rehabilitation of land affected by petroleum production.

- any person may make submissions under 89F(2)

- the application for development consent of the SSD is then evaluated under s79C under s89H of the EP&A Act.

3.4 Environmental impact statement

Section 78A(8A) of the EP&A Act requires at

> *(8A) A development application for State significant development is to be accompanied by an environmental impact statement prepared by or on behalf of the applicant in the form prescribed by the regulations.*

Section 89G of the EP&A Act *Regulations—State significant development* provides

> *In addition to any other matters for or with respect to which regulations may be made under this Part, the regulations may make provision for or with respect to the procedures and other matters concerning State significant development, including the following:*
> *(a)* ***the environmental impact statements to accompany development applications in respect of State significant development****,*
> *(b)* *the* ***requirements for the preparation of those environmental impact statements****, including consultation requirements with respect to government agencies and other affected persons,*
> *(c)* *the making of orders under section 89C (3) declaring specified development to be State significant development,*
> *(d)* *the making of information publicly available relating to development applications in respect of State significant development and the determination of those applications,*
> *(e)* *requiring applicants to provide responses to submissions made on development applications in respect of State significant development.*

Division 6 of Part 6 of the EP&A Regulations sets out additional provisions relating to public participation in relation to SSD.[32]

Schedule 1 Forms Part 1 Development applications of the EP&A Regulations sets out the information to be included in a development application.

Schedule 2 of the EP&A Regulations sets out the procedures and requirements of the DG and other approval bodies in relation to EIS's. For example before preparing an EIS, a proponent, such as CC, must write to the DG for the environmental assessment requirements. The DG must consult with relevant other public authorities before preparing the environmental assessment requirements. CC's EIS must then comply with these requirements. That may include complying with specified publications[33]. Clauses 6 and 7 of Part 3 of Schedule 2 of the EP&A Regulations sets out what the EIS must contain including

> *7(1)(f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of* ***ecologically sustainable development*** *set out in subclause (4)*[34]*.*

[32] These are discussed later on in this paper

[33] Such as ESG2

34 Subclause (4) The principles of ecologically sustainable development are as follows:

(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage,

3.4 Are the Designated Development (DD)[35] provisions applicable?

DD is defined in s4 of the EP&A Act as having the meaning given to it in s77A. Section 77A of the EP&A Act provides "DD is development that is declared to be designated development by an EPI or the regulations." and 77A(2) provides an SSD is not a DD. Section 89L of the EP&A Act provides that the provisions of Div 4.1 of the EP&A Act, any regulations made under this division or any other provisions in relation to SSD prevail to the extent of any inconsistency.

Given SSD's are all "mining" that is "coal mining" and "development that is petroleum production", and the EP&A Regulation Schedule 3 defines a DD as "coal mines"," coal works at coal mines" or "petroleum works", which under SEPP 2007, can only be under a petroleum production lease, the author finds it difficult to see how the DD provisions could be now be applicable.

3.5 Application of the Water Management Act (WMA) or the Water Act 1912 (NSW)

If the area in which CC has it's project is governed by a water sharing plan and therefore the Water Management Act 2000 (NSW), CC will need, in the exploration phase, particularly in relation to CSG exploration, an aquifer interference approval and an aquifer access licence.[36]

---

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,

(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(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.

35 DD's are generally considered to be high impact operations and are listed in Schedule 3 of the EP&A Regulations. This is currently untested for csg operations, and it is an awkward argument, however most appear to think that even with the new SSD provisions, there may still be DD application. I had though possibly in exploration for CSG pilot production, however DD "petroleum works" in Sched 3 EP&A Regs is petroleum works under petroleum production leases. The consent authority for a DD is the council under SEPP 2007. Looking forward to being enlightened here. The Edo appear to think DD provisions still applicable, if they are DC required under Part 4 and application requires EIS and public participation similar to SSD's.

36 One can ask the NSW Office of Water if a water sharing plan is in place and it will provide such information and maps for clarity.

If there is no water sharing plan in place, and there are areas in northern NSW where such plans are yet to be implemented[37], the Water Act 1912 (NSW) applies and CC will require a licence for the works and the extraction of water[38].

If CC's project is in the Murray Darling Basin, it will be also subject indirectly to the Murray Darling Basin Plan and the Water Act 2000 (Cth), and any embargo on the granting of water licences.[39]

(a) Aquifer Interference Activity and Aquifer Interference Approval (AIA)

No AIA if more than minimal harm

If the WMA applies, the Minister must not grant an aquifer interference approval unless the Minister is satisfied that adequate arrangements are in force to ensure that no more than minimal harm will be done to the aquifer, or its dependent ecosystems as a consequence of being interfered with in the course of the activities to which the approval relates[40]. Minimal harm is not defined in the Act or the WM regulations.

(b) Aquifer access licence (AAL)

All explorers in NSW must now have an aquifer access licence if the area is governed by the WMA, ie by a water sharing plan. Taking more than 3ML/annum/licence of water without an AAL is an offence (s60A WMA). Under s63(2) an AAL can be granted by the Minister so long as the Minister is satisfied there are adequate arrangements in force to ensure that no more than minimal harm will be done to any water source as a consequence of water being taken from the water source under the licence.[41]

3.6 Environmental assessment before the grant of a mining lease

Assuming that CC would only apply for a mining lease and then apply for it to be amended to include petroleum under s78 of the Mining Act, no application is necessary for a petroleum production lease.

As previously provided, and because the mining of coal is an SSD, and petroleum production is an SSD, CC will need to obtain development consent from the Minister for the SSD under the EP&A Act, and with that consent there can be no refusal of the granting of the mining lease under s89K(1)(c) of the EP&A Act[42].

---

[37] For example in the Bellata Gurley area south of Moree.

[38] All coal seams are aquifers.

[39] As at March 2012 an embargo was in place in the MDB. It is commonly known that large amounts of water are used/taken in both coal mining and csg operations Ulan 2008

[40] S97 Water Management Act – (1) A water use approval is not to be granted unless the Minister is satisfied that adequate arrangements are in force to ensure that no more than minimal harm will be done to any water source, or its dependent ecosystems as a consequence of the proposed use of water on the land in respect of which the approval is to be granted.
(6) An aquifer interference approval is not to be granted unless the Minister is satisfied that adequate arrangements are in force to ensure that no more than minimal harm will be done to the aaquifer, or its dependent ecosystems … "

[41] There are also a number of other matters which are determinant on the grant of an AAL.

[42] See confirmation of this in Ulan Coal Mines Ltd v Minister for Mineral Resources BC 200709972 November 2007 Smart JA, however this was in relation to the predecessor to Part 4.1 of the EP&A Act, Part 3A, s75V which has been replaced with s89K of the EP&A Act.

The same requirements for a SSD apply at this point in time as have already been outlined in paragraph 3.3 and 3.4 of this paper, and it is not necessary to repeat them in detail again except to say, when CC is considering applying for a mining lease for coal, it can begin the application for development consent process and prepare the EIS and with development consent of the coal mining project as a SSD, be guaranteed that it will receive its mining lease.

3.7 Additional approvals which may be necessary

In addition to development consent, a number of additional approvals may be necessary including:

- an environmental protection licence (**EPL**) – under the Protection of Environment Operations Act 1997 (NSW) if the activity falls within schedule 1 and exceeds certain production limits. CSG plants fall under the activity type Petroleum and fuel production. Ifa facility has the capacity to produce more than 5 petajoules of natural gas per year an EPL is required. This is roughly the equivalent of 100,000 tonnes of gas per year.[43] ; and

- a permit to clear native vegetation from a catchment management authority under the Native Vegetation Act 2003 (NSW).

3.8 Commonwealth environmental assessment under the EPBC Act

State environmental assessment is not necessarily the end of the environmental assessment process that occurs in relation to a coal and CSG development in NSW. The EPBC Act provides a further level of environmental assessment and decision making by the Commonwealth in relation to:
- actions that are likely to have a significant impact on matters of national environmental significance
- actions that are likely to have a significant impact on Commonwealth land
- actions on Commonwealth land that are likely to have a significant impact on the environment anywhere
- actions by the Commonwealth that are likely to have a significant impact on the environment anywhere.[44]

For CC's purposes, we assume that only the first of these applications of the EPBC Act could apply, that is, whether there will be "actions that are likely to have a significant impact on matters of national environmental significance" (**MNES**).

The EPBC Act in Part 3, lists matters of MNES being matters of:
- world heritage;
- national heritage
- wetlands of international importance

[43] AGLUI Pty Ltd has an EPL for its Camden Gas project facility.
[44] See p2 of the NSW Department of Planning Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 Guide to implementation in NSW, May 2007

- listed threatened species and communities
- listed migratory species
- protection of the environment from nuclear actions
- marine matters
- great barrier reef marine park
- additional matters of national environmental significance

There are guidelines as to whether or not an action will have a significant impact on a MNES.

If a proponent of a project, such as CC, believes its project may have a significant impact on a MNES, it can refer its project to the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities (**Commonwealth Minister for the Environment**) for a decision on whether the Minister's approval will be needed. The Commonwealth Department will "advise within 20 business days of receipt of a valid referral as to whether or not a proposal is a "controlled action" and needs assessment and approval under the EPBC Act"[45]. A state government can also make a referral, or, the Commonwealth Minister for the Environment may request that a person make a referral.

If the action is "likely to have a significant impact on matters of national environmental significance" it is a controlled action, which if not approved under Part 9 of that Act is prohibited. Approval requires an environmental assessment be carried out. Due to the Bilateral Agreement signed in 2007 between the NSW Government and the Commonwealth Government, the assessment regimes under Parts 4 and 5 of the EP&A Act are accredited for assessment purposes under the EPBC Act.[46] In other words, the assessment under the EP&A Act, and approval occurs once by the State agency or a council, and that assessment is then used by both the State and the Commonwealth to determine whether to approve the proposal under the EPBC Act.[47]

The EPBC referral process is set out in Figure 1. The NSW Guide to the application of the EPBC Act recommends it is best to refer a proposal to the Commonwealth Department (DWE) before the environmental assessment under the EP&A Act is exhibited.

An example of the application of the EPBC Act is demonstrated in the case of Booth v Bosworth [2001] FCA 1453. Here a prohibitory injunction was sought under s475(5) of the EPBC Act to restrain the electrocution of flying foxes by Bosworth on his lychee farm which was adjacent to a wet tropics world heritage area. In this case the court considered whether the offender's action was likely to have a significant impact on a MNES, the world heritage values of the wet tropics area. Branson J held Bosworth's conduct was likely to have a significant impact on the world heritage values of the wet tropics world heritage area and granted the

[45] ibid p4
[46] Ibid p2
[47] Ibid p3

injunction sought. Bosworth was ordered to take down his electrified netting. For CC's purposes, if it commences its project and the EPBC Act applies and it does not have former approval, CC could be ordered to stop the project. An EPBC Act referral is therefore more than appropriate before substantial funds are expended on getting the project up and running.

4 Consent authorities' obligations

At each point where the Minister, the Department, or a public authority or determining authority **(consent authority)** plays a role in the decision making process, that consent authority will have certain mandatory and discretionary obligations under the legislation and bounds within which to make decisions developed in the common law which it must comply with in order that its decision is considered valid and will stand on a challenge.

It is beyond the scope of this paper to set out all the statutory obligations of each consent authority, however some of those are listed below.

4.1 At the submission of an application for a MEL and PEL

As outlined the Minister for Resources and Energy must under the Mining Act and the Petroleum Act consider those aspect of the environment set out in the respective Acts and must ensure that the applications meet the requirements of the Acts. Applicants for both mining exploration licences and petroleum exploration licences must satisfy the Minister that they have the technical, operational and financial capacity to hold and comply with the licence conditions, they must set out a work program and disclose their proposed expenditure.[48] If the Minister for Resources and Energy grants the licences without having considered these matters, the grant may be subject to a successful challenge.

4.2 During the MEL or PEL – REF's

The Minister for Planning and his Department's obligations in the EP&A Act in relation to consideration of and approval of activities in a licence which require a REF are set out in s111 of the EP&A Act, that they are to "examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity."

4.3 In relation to the requirement to submit an EIS and for an SSD

As a consequence of the categorisation under the SEPP's and EP&A Act, the consent authority for the purpose of EIS environmental assessment is the Minister administering the EP&A Act, the Minister for

[48] sections 13, 14, 15, 21 Petroleum Act, and s13 Mining Act.

Planning,[49] unless the Minister has delegated that function to another, such as the Planning Assessment Commission (**PAC**) or the Director General (**DG**) or another public authority.

It is mandatory that the Minister for Planning ensure that the SSD application is publicly exhibited[50]. The Minister must act within the powers and according to the procedures set out in the EP&A Act and Regulations [51] in relation to the application process and requirements. The Minister must comply with the provisions of s79C of the EP&A Act [52]in the evaluation of the application and make a determination under s80 of the EP&A Act. The Minister can impose conditions on the development consent under s80A of the EP&A Act.

If the development application has been referred to the PAC, the EP&A Regulations in Part 6 Division 15 apply. If the PAC holds a public hearing of the matter, there is no appeal from that decision[53] unless there has been a jurisdictional error, in which event, there is no decision to appeal[54] and the decision may be reviewed by the NSW Supreme Court .

Section 102 EP&A Act Non compliance with certain provisions regarding SSD (2) The only requirements of this Act that are mandatory in connection with the validity of a development consent to which subsection applies are as follows: (a) A requirement that a development application and its accompanying information be publicly exhibited for the minimum period of time.

4.4 In relation to the grant of an ML

Section 65(2) of the Mining Act provides, the Minister must not grant a mining lease over land to which this section applies unless the appropriate development consent is in force with respect to that land.

4.5 In relation to the EPBC Act

The Cth Minister for the Environment must also act within the bounds of the EPBC Act and comply with its procedures. In Anvill Hill Project Watch Association v Minister for Environment (2008) 166 FCR 54 the Federal Court considers some of the Departments obligations in this regard.

4.6 At common law

At common law consent authorities have to act within certain bounds of procedural fairness. This means that if they act outside those bounds their decision can be found to be invalid. The common law rules have been

[49] Section 89D of the EP&A Act. s23 EP&A Act Enables the Minister to delegate the consent authority function to the Planning Assessment Commission, the Director General or any other public authority. Section 79(4) and (5) for DDs.
[50] Section 102(2)(a) EP&A Act
[51] Section 105 EP&A Act
[52] There may also be additional matters which must be taken into consideration under Reg 92 EP&A Regulations 2000 or generally under Division 8 of Part 6 of the EP&A Regulations
[53] Section 23F EP&A Act
[54] See case law on privative clauses in particular Kirk and anor v Industrial Relations Commission (2010) 262 ALR 569 HCT in particular para 55

codified to some extent in the Commonwealth Administrative Decisions (Judicial Review) Act 1977 (Cth) and, for ease of reference, this paper will refer to section 5 of that Act for a list of matters which may result in a decision maker's decision falling foul of the law.

> *(1) A person who is aggrieved by a decision to which this Act applies that is made after the commencement of this Act may apply to the Federal Court or the Federal Magistrates Court for an order of review in respect of the decision on any one or more of the following grounds:*
>
> *(a) that a **breach of the rules of natural justice** occurred in connection with the making of the decision;*
>
> *(b) that **procedures** that were required by law to be observed in connection with the making of the decision were **not observed**;*
>
> *(c) that the person who purported to make the decision **did not have jurisdiction** to make the decision;*
>
> *(d) that the decision was **not authorized by the enactment** in pursuance of which it was purported to be made;*
>
> *(e) that the making of the decision was **an improper exercise** of the power conferred by the enactment in pursuance of which it was purported to be made;*
>
> *(f) that the decision involved an **error of law**, whether or not the error appears on the record of the decision;*
>
> *(g) that the decision was induced or affected by **fraud**;*
>
> *(h) that there was no evidence or other material to justify the making of the decision;*
>
> *(j) that the decision was otherwise **contrary to law**.*
>
> *(2) The reference in paragraph (1)(e) to an improper exercise of a power shall be construed as including a reference to:*
>
> *(a) **taking an irrelevant consideration** into account in the exercise of a power;*
>
> *(b) **failing to take a relevant consideration** into account in the exercise of a power;*
>
> *(c) an exercise of a power for **a purpose other than a purpose** for which the power is conferred;*
>
> *(d) an exercise of a discretionary power in **bad faith**;*
>
> *(e) an exercise of a **personal discretionary** power at the direction or behest of another person;*
>
> *(f) an exercise of a discretionary power in accordance with a rule or policy **without regard to the merits** of the particular case;*
>
> *(g) an exercise of a power that is **so unreasonable that no reasonable person could have so exercised the power**;*
>
> *(h) an exercise of a power in such a way that the result of the exercise of the power is **uncertain**; and*
>
> *(j) any other exercise of a power in a way that constitutes **abuse of the power**.*
>
> *(3) The ground specified in paragraph (1)(h) shall not be taken to be made out unless:*
>
> *(a) the person who made the decision was required by law to reach that decision only if a particular matter was established, and there was no evidence or other material (including facts of which he or she was entitled to take notice) from which he or she could reasonably be satisfied that the matter was established; or*
>
> *(b) the person who made the decision based the decision on the existence of a particular fact, and that fact did not exist.*

In this respect, the NSW Minister for Planning must, in any SSD application and determination, not act otherwise than within these bounds, for example any bias, failure to regard the merits, abuse of power or consideration of irrelevant considerations will possibly open up his decision to challenge and possibly

invalidate his decision. An example of the application of judicial review to executive decisions can be seen in the Noble v Cowra Shire Council case[55]

5 Public participation

5.1 At the submission of an application for a MEL and PEL

Recent changes to NSW government policy now allow "any person" to make submissions to the government in relation to both applications for or renewals of MELs, PELs. This is however currently only on an informal basis and there is no legal right under the legislation at this stage for such objections to be made or considered. Nevertheless, it is the first time such public participation has been allowed at this point in the process.

5.2 Within 3 months of the grant of an authority or a petroleum title

(a) Objecting to the grant or renewal of the PEL and or MEL

Under both the Petroleum Act and the Mining Act, objections to the grant of an exploration licence, or a mining lease can be made within 3 months of the gazettal of the grant. The grounds of objection are failing to satisfy or comply with the provisions of the Acts in relation to the grant both from the applicant's perspective and from the Minister's perspective.

(b) Objecting to the grant of an AIA or an AAL

(i) AIA "any person"

Any person, in accordance with the WM regulations, may object to the granting of an aquifer interference approval (s93 WMA) that has been advertised pursuant to s92 WMA. Section 92(7) of the WMA provides the regulations may require any applications … to be advertised." The regulations at Regulation 24(5) An application for and approval must be advertised in a local news paper and (c) on the department's website. Reg 24(6) sets out what must be contained in the advertising notice.

Objections must be made within 28 days of the notice and be lodged at the address for objections set out in the notice (Reg 25 WM Regs) and must specify the grounds of the objection. The grounds of objection are set out in s97 of the WMA and for AIA are that inadequate arrangements have been put in place to ensure no more than minimal harm is caused.

Objectors also have the rights to appeal decision of the Minister to the LEC as a Class 1 appeal, or a merits appeal.[56]

(ii) AAL "any person"

[55] BC200304340. Unfortunately being well over the word count makes it difficult to justify going into details of this case.

[56] s368 Water Management Act 2000

AAL applications are subject to the rights of any person to object under s62, but only in specified circumstances

(a) for water in an area that is not within a water management area, or

(b) for water in a water management area for which there is no water sharing plan in force.

It would appear that these qualifications discount any possibility of any person making an objection.[57]

5.3 In relation to Part 5 REF's required in exploration pursuant to the terms of the MEL and PEL

There is currently no formal legal right of landholder notification or general public participation or rights to object to the calibre or requirement to have submitted a REF in Part 5 of the EPA. REF's however are now being carefully reviewed in the submissions made when the MEL or PEL is sought to be renewed.

5.4 In relation to the requirement to submit an EIS and for all SSD's

Under the MEL and PEL if an activity is deemed by the Department following submission of a surface disturbance notice to cause a significant impact, the Department may require that an EIS is submitted. The EP&A Act required pubic exhibition of all EIS's and allows for public participation.

Further, if in exploration[58], and definitely when for coal mining, because the development is classified as an SSD, Part 4 of the EP&A Act requires public exhibition of all SSD development applications[59]. "Any person" may make written submissions to the consent authority, in these cases the Minister. Submissions by way of objections must set out the grounds of objection. Objectors have the right to appeal the decision of the Minister in the Land and Environment Court.

5.5 In relation to the Minister's power to seek invitations for tender of ML's or grant applications for ML's

Schedule 1 Division 4 Notification to owners of private land, of the mining Act, gives owners of private land rights in relation to protection of agricultural land from the grant of an ML on the surface of that land, if the owner can satisfy the DG that the land is agricultural land as defined in Schedule 2 of the Mining Act.[60]

5.6 Under the EPBC Act

Under the EPBC Act an "interested person" is allowed to apply to the Federal Court to restrain a contravention of the EPBC Act[61]. The definition of interested person is extensive and includes individuals or groups of organisations who have objects or purposes to protect or conserve or research into the environment.

---

[57] I am waiting for clarification from the NOW in relation to these provisions.

[58] ie 6+ wells within 3km's of another well in petroleum exploration or bulk sampling of more than 20,000 tons of coal

[59] Section 89F EP&A Act

[60] s63(4) Mining Act

[61] Section 475 EPBC Act. Interested person is defined in s475 (6) and (7) of the EPBC Act

6 Role of the courts

6.1 Land and Environment Court

In NSW, the Land and Environment Court (**LEC**), set up in 1980 under the Land and Environment Court Act 1979 (NSW), is a specialist court, a superior court of record and has exclusive jurisdiction to determine a wide range of environmental, development, building and planning disputes and more recently also disputes under the Mining Act and the Petroleum Act.

The LEC has jurisdiction to undertake

- merits review of governmental decisions this is generally but not exclusively, done by commissioners ,
- judicial review of governmental action by judges
- civil jurisdiction
- civil enforcement
- criminal prosecution,
- appeals from criminal prosecution decisions
- appeals from decisions of commissioners merits decisions

about planning, environmental, land, mining and other legislation."[62]

6.2 Mining Act and Petroleum Act

Since 7 April 2009, the LEC has had jurisdiction to hear and dispose of civil proceedings under the Mining Act and the Petroleum Act, and as of 15 November 2010 the court has jurisdiction to hear and dispose of criminal proceedings under the Mining Act.[63] Civil proceedings as Class 8 actions and criminal proceedings as Class 5 actions.

Part 15 of the Mining Act and s115 of the Petroleum Act set out the jurisdiction of the LEC in relation to mining and petroleum matters.

6.3 EP&A Act challenges – Merits appeal and judicial review

In the LEC in relation to CSG and mining matters, there are 2 main types of challenge, merits appeal and judicial review.

[62] http://www.lawlink.nsw.gov.au/lawlink/lec/ll_lec.nsf/pages/LEC_aboutus

[63] http://www.lawlink.nsw.gov.au/lawlink/lec/ll_lec.nsf/pages/LEC_mining_jurisdictions see ss21C and 21 of the Land and Environment Court Act 1979 (NSW)

(a) Merits review

Merits appeals are available for Classes 1, 3 and 3 matters. Part 3 of the LEC Act sets out the jurisdiction of the various classes. For these purposes s17(d) of the LEC Act provides

> *(d) appeals, objections and applications under sections … 97 Appeal by applicant, 98 Appeal by an objector , … of the Environmental Planning and Assessment Act 1979,*

Section 39 Powers of Court on appeals of the LEC Act sets out

> *(1) In this section, appeal means an appeal, objection, reference or other matter which may be disposed of by the Court in proceedings in Class 1, 2 or 3 of its jurisdiction.*
> *(2) In addition to any other functions and discretions that the Court has apart from this subsection, the Court shall, for the purposes of hearing and disposing of an appeal, have **all the functions and discretions which the person or body whose decision is the subject of the appeal** had in respect of the matter the subject of the appeal.*
> *(3) An appeal in respect of such a decision shall be by way of **rehearing, and fresh evidence or evidence in addition to, or in substitution for, the evidence given** on the making of the decision may be given on the appeal.*
> *(4) In making its decision in respect of an appeal, the Court shall have regard to this or any other relevant Act, any instrument made under any such Act, the circumstances of the case and the **public interest**.*
> *(5) The decision of the Court upon an appeal shall, for the purposes of this or any other Act or instrument, be deemed, where appropriate, to be the **final decision** of the person or body whose decision is the subject of the appeal and shall be given effect to accordingly.*

These reviews involve the re-exercise by the Commissioners of the administrative powers of the original decision maker. It is a de novo appeal and new evidence can be brought to bear on the decision. The court in undertaking a merits review is obliged to have regard to the public interest"[64]

(b) Judicial review

Judicial review is more narrowly confined than merits review and looks at whether a decision complies with the limits imposed by law.[65] It is a fundamental tenant of separation of powers in a common law system that the judiciary may examine the actions of the executive, and strike those actions down if they have not been made in accordance with the law. Judicial review is an inherent common law jurisdiction of superior courts allowing those courts to grant prerogative writs such as certiorari, prohibition, mandamus and habeous corpus. Superior courts also have jurisdiction to exercise the equitable remedies of declaration, injunction, specific performance.

The court will examine the actions of the executive to ensure that they comply with and do not offend essentially all the enumerated matters listed in s5 of the ADJR Act and set out in paragraph 4.6 of this paper. As an example, in Ulan Coal Mines Ltd v Minister for Planning and Moorlarben Coal Mines Pty Ltd [2008] NSWLEC 185, Ulan sought judicial review of the decision of the Minister for Planning in relation to approval of the Moolarben Coal Mine project under Part 3A of the EP&A Act, on the grounds that the decision lacked certainty, and secondly that the decision was so unreasonable no reasonable decision maker would have

[64] Preston 2011 p4
[65] Creyke R 2nd Edition 2008 para 2.1.1

made it[66]. Ulan was not successful, the basis of the action was in relation to Moorlarben's use of water, the Court held that the conditions of approval allowed Moorlarben to exercise adaptive management in relation to its use of water and that was neither uncertain or unreasonable.[67]

If any of these common law rules is offended, the decision may be invalidated and if the proponent requests the decision maker must go back and undertake the action again.

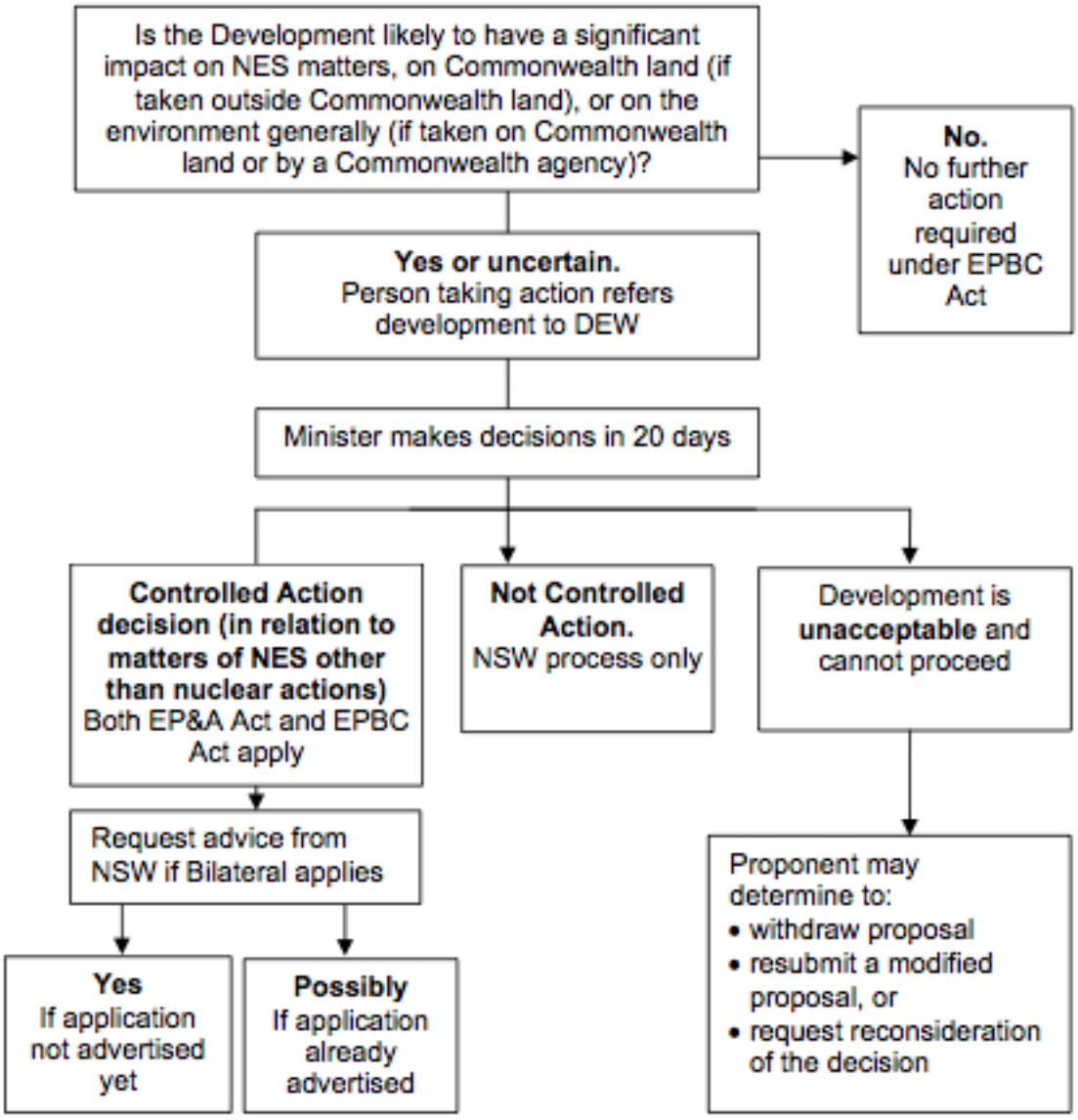
Conclusion

CC should now be well aware that it will have environmental assessment at every turn of its coal and gas project and should not discount the application of legislation in relation to pollution control[68] or the powers of the Environmental Protection Authority in NSW, or even the underlying application of the common law of tort of nuisance. Nevertheless, coal mining in NSW, despite these stringent environmental controls, continues to allow NSW to be one of the largest exporters of coal in the world.

[66] Ulan 2008 BC200804225 para [3]
[67] ibid at [86]
[68] Such as the Protection of the Environment Operations Act 1997 (NSW) and the Contaminated Land Management Act 1997 (NSW) and the possible application of private and public nuisance.

Figure 1 EPBC Act Referral process

Figure 1. Referral Process



References

ABS (1910) History of Coal Mining, Year Book Australia, Series no. 1301.0

AGL Camden Gas Project Northern Expansion Environmental Assessment October 2010 Vol 1 found at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2921

Aronson M, Dyer B, Groves M, 2009 *Judicial Review of Administrative Action* 4th Edn Lawbook Co. Sydney

Atkinson C, 2002 *Environmental Hazards of Oil Exploration* Prepared for National Parks Association of NSW Inc. Sydney

Baldwin L 2006 *Mining in Greenhouses A precautionary tale* AMPLA Yearbook 2006 pp533-437

Bates G 2010 *Environmental Law in Australia* 7th Edition Lexis Nexus Butterworths Australia

Baye M. 2009 *Managerial Economics and Business Strategy* 6th Edition McGraw- Hill Irwin pp524

Brans E, De Haan E, Nollkaemper A, Rinzema J, 1997 *The Scarcity of Water Emerging Legal and Policy responses* Kluwer Law International

Butt P., 1980 *Introduction to Land Law* The Law Book Company Sydney

Cameron D, 2011 *From Seam Challenges for the coal seam gas industry* Civil Engineering Australia April 2011

Connell D, 2007 *Water Politics in the Murray Darling Basin* The Federation Press

Connell D, Grafton Q, 2008 *Planning for Water Security in the Murray Darling Basin* Public Policy Volume 3 Number 1 2008 67-86

Creyke R, McMillan J 2008 Control of Government Action Text, cases and commentary 2nd Edition 2008 Lexisnexus Butterworths

Daintith T, 2011 *Principles of Oil and Gas Course Materials for Postgraduate Students* Post Graduate Law Sydney University

Dusseault MB. 2010 *Compaction Geometrics: Mechanisms, Screening* Power point presentation University of Ontario Canada

EDO, 2010 *Rural Landholder's guide to Environmental Law in NSW* 3rd Edn NSW Environmental Trust

EPA United States Environmental Protection Agency, 2011 *Draft Plan to Study the potential impacts of Hydraulic Fracturing on Drinking Water Resources*, Office of Research and Development February 7, 2011

Fairnstein M. Harman J. Dickson A. 2001 "*ABARE Economics Australian Gas Supply and Demand Balance Report to the Commonwealth Department of Industry, Tourism and Resources* August 2002

Fisher D 2009 *The Law and Governance of Water Resources The challenge of sustainability* Edward Elgar Cheltenham UK

Gardner A, Bartlett R, Gray J 2009 *Water Resources Law* LexisNexis Butterworths

Gardiner D 2005 *Mining in Greenhouses: Digging Deeper into Environmental Impact Assessment* AMPLA Yearbook 2005 pp 492 - 437

Grafton Q, 2009 *Economics of Water Resources Vol I and II* An Elgar Reference Collection Cheltenham UK

Helmuth M., 2008 *Scoping Study: Groundwater Impacts of Coal Seam Gas Development – Assessment and Monitoring*, Centre for Water in Minerals Industry Sustainable Minerals Institute University of Queensland, Doc reference P08-010-002.doc

Hillier J., 2010 *Groundwater connections between the Walloon Coal Measures and the Alluvium of the Condamine River A report for the Central Downs Irrigators Limited* August 2010 John R Hillier Consulting Hydrogeologist

Hotop SD., 1983 *Cases and Materials on Review of Administrative Action* 2nd edition The Law Book Company, Sydney

Hunt M., 2009 *Mining Law in Western Australia* 4th Edn The Federation Press

Lloyd-Smith Dr M., Senjen Dr R, 2011 *Briefing Paper Hydraulic Fracturing in Coal Seam Gas Mining: The Risks to Our Health, Communities, Environment and Climate* National Toxics Network April 2011

Lucy J., 2008 *Water Regulation the Laws of Australia* Thomson Reuters

Lyster R, Lipman Z, Franklin N, Wiffen G, Pearson L., 2009 *Environmental and Planning Law in New South Wales* 2nd Edn The Federation Press

Matthew D 2005 *The nature of gas in coal: Technical Challenges of co-location of coal and coalbed methane* AMPLA Yearbook 2005 pp368 -379

McGrath C, 2004 Key concepts of the Environment Protection and Biodiversity Conservation Act 1999 9Cth) (2004) 22 EPLJ 20

Moran C, Vink S., 2010 *Assessment of Impacts of the Proposed coal seam gas operations on surface and groundwater systems in the Murray Darling Basin* Centre for Water in the Minerals industry, Sustainable Minerals Institute, The University of Queensland

Mudd G., 2010 *Environmental and Groundwater Issues and AGL's Hunter Coal Seam Gas Project Final Report to Hunter Valley Protection Alliance*

Myers T., 2009, *Groundwater management and coal bed methane development in the Powder River Basin of Montana* Journal of Hydrology, 2009, V. 368, 1-4, pp178-19

NSW Department of Planning Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 Guide to implementation in NSW, May 2007

Osborn S, Vengosh A, Warner N, Jackson R., 2011 *Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing* Centre for Global Change, Nicholas School of the Environment, Division of Earth and Ocena Sciences, Nicholas School of the Environment, and Biology Department, Duke University, Durham, NC 27708

Parker J, Glindemann R., *Regulation of contamination in energy resources projects* 2004 AMPLA Yearbook 2004 pp438-479

Pearce D, 2007 *Administrative Appeals Tribunal* 2nd Edn LexisNexis Butterworths Australia

Pells Consulting Report on the Thirlmeer Lakes Memorandum 2 to Report of October 2011

Pigram J 2006 *Australia's Water Resources From use to Management* CSIRO Publishing

Poisel T, 2012 *Coal Seam gas exploration and production in NSW: The case for better strategic planning and more stringent regulation* (2012) 29 EPLJ 129

Preston BJ 2011 Keynote Address Operating an environment court: the experience of the Land and Environment Court of New South Wales and 12 benefits of judicial specialisation in environmental law.

University of Victoria Environmental Law Centre, West Coast Environmental Law and Ecojustice. 3 February 2011 Vancouver Canada

Preston BJ 2008 The art of judging environmental disputes Southern Cross Universoty Law Review, Volume 12-2008 p103

Preston BJ 2006 The role of public interest environmental litigation (2006) 23 EPLJ 337

Queensland Government Department of Employment, Economic Development and Innovation 2010 *Investigation Report Leakage testing of Coal Seam gas wells in the Tara "rural residential estates" vicinity* 1 June 2010

Remner, DJ, Tenneco Oil E&P Co.; TurgayErtekin and Wonmo Sung, Pennsylvania State University; King, GR, Chevron Geosciences. Co., Society of Petroleum Engineers, Volume 1, Number 6, November 1986.

Roth L, 2011 *Regulation of coal seam gas industry in NSW* e-Brief 1/2011 NSW Parliamentary Library Research Service

Rutovitz j, Harris S, Kuruppu N, Dunstan C, 2011, *Drilling Down. Coal Seam Gas: Background paper.* Prepared by the Institute of Sustainable Futures UTS for the City of Sydney Council November 2011

Scarr P, 2004 *Sullivan v Oil Company of Australia Limited and Santos Petroleum Operations Pty Ltd and its Relevance throughout Australia* AMPLA Yearbook 2004 p561

SKM SMI 2009 *Framework for assessing Local and cumulative effects of mining on Groundwater Resources Report 6 Jurisdictional processes for undertaking Assessments for groundwarter effects.* Version 3 12 November 2009

Su X, Zhang L, Zhang R, 2003 *The abnormal pressure regime of the Pennsylvania No 8 coal bed methane reservoir in Liulin – Wupu District, Eastern Ordos Basin China* International Journal of Coal Geology 53 (2003) 227-239

Trindade F, Cane P 2001 *The Law of Torts in Australia* 3rd Edn Oxford University Press

URS 2009 *Gladstone Environmental Impact Statement Section 6.5.1.6 Potential impacts and mitigation measures*

Worley Parsons *"Camden Gas Project Stage 3 Peer Review of Groundwater Component of EA* 19 November 2010 engaged by Cambelltown City Council. Found at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2921 in public submissions.

Legislation

NSW

Contaminated Land Management Act 1997 (NSW)

Environmental Planning and Assessment Act 1979 (NSW)

Land Acquisition (Just Terms Compensation) Act 1991 (NSW)

Mining Act 1992 (NSW)

Mine Subsidence Compensation Act 1961 (NSW)

Petroleum (Onshore) Act 1991 (NSW)

Protection of the Environment Operations Act 1997

Queensland

Petroleum Act 1923 (QLD)

Petroleum and Gas (Production and Safety) Act 2004 (QLD

(NSW)

Water Management Act 2000 (NSW)

Water Act 1912 (NSW)

Cases

Landholders in Arkansas (Class Action) v BHP Billiton (PLC or Ltd?) US District Court in Little Rock and Faulkner County Circuit Court in Conway Arkansas

O'Connor v Arrow (Daandine) Pty Ltd, Margaret Wilson J., Supreme Court of Queensland 23 December 2009

Graham Barclay Oysters Pty Ltd v Ryan anors (2002) 194 ALR 337 following Wyong Shire Council v Shirt (1980) 146 CLR 40 following the Bolton v Stone 1951 AC 850 negligence calculus

Sydney Gas (Camden) Operations Pty Ltd v Alan Gatenby Mining Warden's Court August 2005

Sullivan v Oil Company of Australia Ltd & anor [2002] QLRT 109, and [2003] QCA 570 Unreported 19 December 2003

Ulan Coal Mines V Minister for Mineral Resources BC200812052 [2008] NSWCA 251, [2007] NSWSC 1299

Brown v CMA Pty Ltd [2010] 76 NSWLR 473

Cadia Holdings Pty Ltd v State of NSW 25 August 2010 HCT S367/2009

Websites
http://www.anzrsai.org/system/files/f8/f4/f45/f47/o263//Ernst%20et%20al.pdf - Ernst A, Krishnamoorthy M, Sier D, Marquez L, (CSIRO) 2008 *Solving Regional Infrastructure Bottlenecks: Rail allocation policies for a coal terminal* Australian Journal of Regional studies Vol 14, No 2, 2008

http://www.pellsconsulting.com.au/

Data bases
Lexisnexus Environmental litigation civil enforcement Updated by Gerry Bates