BACKGROUND
Coal mining was originally approved on the site in 1990. The consent allowed for a combination of underground and open-cut mining, at a rate of ~ 9 million tonnes a year. Nonetheless, the site has not been mined to date.

The Proponent is now seeking a new approval for open-cut mining on the site to replace the previous mine plan. This is the Commission’s report on its determination of the open-cut mining application.

CURRENT PROJECT
The Proponent is seeking project approval for the construction and operation of an open-cut mine in the Leard State Forest, south of Maules Creek. The proposal involves the extraction of up to 13 million tonnes of run of mine coal a year, for 21 years. The proposal also includes associated infrastructure, such as a rail spur line and loop, a coal handling preparation plant, coal stockpile areas, access roads and a water pipeline from the Namoi River.

COMMISSION’S EARLIER REVIEW OF THE PROPOSAL
In 2011 the Minister for Planning and Infrastructure requested the Planning Assessment Commission undertake a review and public hearing on the proposal, under section 23D(1)(b)(ii) of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Commission to undertake this function was Ms Gabrielle Kibble AO (chair), Mr Brian Gilligan and Mr Garry West. The Commission held a public hearing in Boggabri in November 2011 and completed its Review Report in March 2012. [PAC, 2012b]

Upon completion of the Review the project was referred back to the Department of Planning and Infrastructure to complete its assessment of the project.

DELEGATION TO THE COMMISSION
On 24 August 2012 the Director-General of the Department of Planning and Infrastructure referred the project to the Planning Assessment Commission for determination, under the terms of the Minister’s delegation.

Ms Gabrielle Kibble AO nominated Dr Neil Shepherd AM to chair the Commission for the project and Mr David Johnson as the other member of the Commission.

DEPARTMENT’S ASSESSMENT REPORT
The Director-General’s Environmental Assessment Report [Department of Planning and Infrastructure, 2012b] considered the following key issues:
- Biodiversity;
- Noise impacts;
- Blasting and Vibration;
- Air Quality;
- Greenhouse Gas Emissions;
- Water Resources;
- Heritage;
- Transport;
- Visual Amenity and Lighting; and
- Socio-economic aspects.

The Department concluded that the project would have a number of adverse impacts, particularly in relation to:
- Clearing of native vegetation, including 545 ha of the Box Gum Woodland Endangered Ecological Community;
- Significant noise and air impacts on privately owned landholdings;
- Impacts on Aboriginal cultural heritage;
- Localised impacts on water resources;
- Local road impacts; and
- Local and regional social/amenity impacts on infrastructure and services.

The Department found that these impacts could be adequately mitigated, managed, offset or compensated for through commitments and conditions, particularly:
- a significant biodiversity offset strategy;
- noise and dust mitigation measures;
- a voluntary planning agreement with Narrabri Shire Council; and
- the development of regional strategies to manage cumulative impacts.

The Department also indicated that the project would provide major economic and social benefits to the region and considered that the project’s benefits outweighed its residual impacts and that it should be approved subject to stringent conditions.

**PLANNING ASSESSMENT COMMISSION REVIEW**

The PAC Review Report and recommendations are considered and discussed in the Director-General’s Environmental Assessment Report. The Review Report was also a critical component in the Commission’s determination of this project. As mentioned in the Commission’s report on its determination of the adjoining Boggabri Coal Mine (which was also the subject of a review and public hearing) the Review Report is the product of an independent merit review of the project conducted by three highly credentialed Commissioners with long experience in assessment of environmental and planning matters. The fact that a public hearing was held as part of the Review also means that merit appeals to the Land and Environment Court are not available. The Commission considers that two things flow from this:
- there is an increased responsibility on the Commission to examine very carefully the potential impacts of the project and the appropriateness of proposed strategies to avoid, mitigate or manage them; and
- any proposed departures from the Review recommendations should be treated with caution and subjected to rigorous analysis.

The Review acknowledged the environmental impacts of the project, but found the project could have merit if stringent conditions were applied. The Review also considered the potential cumulative impacts from this project and several other proposed mining projects in the area. These included potential impacts on biodiversity and air quality, and from noise. The Review made a number of recommendations about the need for appropriate regional frameworks and strategies to address these cumulative impacts.

It is also clear from the Review’s recommendations that it did not favour simply transferring existing approaches to impacts on air quality and noise from existing mining regions such as the Hunter without careful consideration as to their applicability in this (relatively) undeveloped mining area or their applicability to this particular project.
Some of the key recommendations from the Review included:

- preparation of a regional biodiversity management strategy;
- establishment of a viable biodiversity corridor through the Leard State Forest;
- compliance with state and national air quality standards;
- compliance with a 35dB(A) \( L_{Aeq} \) 15 minute noise limit at residential properties;
- establishment of regional air and noise management strategies;
- timely publication of monitoring data and identification of operational responses to monitoring data and weather forecasts;
- the long-term landform must not generate a pit (void) lake; and
- emplaced spoils must have a capacity to drain to the natural catchment and drained waters must not adversely impact upon the downstream environment.

COMMISSION MEETINGS, SITE VISIT AND CORRESPONDENCE

The Commission received a number of requests for meetings with the Community as part of its determination of the project. Including from local land owners and in a letter received on 12 October 2012 from the Environmental Defenders Office (EDO) [Appendix 1]. However, a public hearing had already been held in Boggabri in November 2011 as part of the Review. Eight oral submissions were made at that public hearing. Six written submissions were also received. Given that a public hearing had already been held, the Commission decided that it was not necessary to also hold a public meeting prior to determining the project.

The Commission visited the site and surrounds, including Maules Creek and the Leard State Forest, on Thursday 21 June 2012 as part of its consideration of the Boggabri Coal Project. In anticipation of this application being referred to the Commission, the opportunity was also taken at that time to inspect the area for the Maules Creek Project.

Meeting with the Department of Planning and Infrastructure

On Friday 28 September 2012 the Commission met with representatives from the Department of Planning and Infrastructure to discuss the application. The issues of noise, the biodiversity corridor, the final void and monitoring and reporting requirements were discussed with the Department. The Department also subsequently indicated that the Office of Environment and Heritage had confirmed that with mining on either side of the corridor, the vegetation in the corridor would be subjected to a number of significant edge effects including drying (from increased wind exposure, loss of run off and groundwater drawdown) and dust deposition.

Meetings with the Proponent

The Commission met with the Proponent at the Commission’s offices in Sydney on Friday 28 September 2012. The Proponent was advised that the Commission had received correspondence raising concerns that the landholdings around Maules Creek are not all broad-acre agricultural properties, and some should be considered as “lifestyle blocks”. The Proponent acknowledged that a small number of blocks may fit this description, but expressed concern that re-introduction of a general requirement to purchase agricultural properties where 25% of land was noise-affected was both unnecessary and would add significant costs to the project.

The Commission also questioned the Proponent’s consultants regarding the groundwater implications of reducing the barrier between the project and the Boggabri Coal Mine. The Proponent’s consultant noted that the coal seams in the barrier would allow some movement of water, so even with retention of a 500m barrier, groundwater would not be prevented from moving between the two pit shells.
The Commission discussed the option of providing for an alternative biodiversity corridor should the Proponent be able to demonstrate adequate ecosystem function in a rehabilitation or offset area.

In addition to the issues discussed above, the Commission indicated it was considering imposing more stringent biodiversity, noise and air quality conditions in keeping with those in the Boggabri approval.

On 11 October 2012 the Commission held a phone meeting with the Proponent. The Commission explained the position it had reached in relation to the acquisition rights for noise affected land. The Proponent indicated it would accept the proposed condition.

Correspondence Received
The Commission has received a number of letters from individuals and organisations on behalf of clients (including from the EDO). The letters involve responses to aspects of the Boggabri Coal Project Determination Report and approval conditions that are relevant to the Maules Creek Project and also to the Department’s Assessment Report and recommended conditions for Maules Creek. These letters have been considered by the Commission and, where appropriate, adjustments have been made to accommodate the concerns raised.

COMMISSION’S COMMENTS
The Boggabri Coal Project and the Maules Creek Coal Project are, between them, proposing to mine a substantial area of the Leard State Forest using open-cut mining methods. Boggabri has already commenced mining under an earlier approval and is moving north from the southern boundary of the Forest. Boggabri has recently been granted a new 21 year approval. Maules Creek on the other hand has not commenced mining under its earlier approval and is seeking a new 21 year approval to commence mining southward from the northern boundary of the Forest. On current mine plans a narrow strip of forest would be left between the mines.

As the two Commission Review Reports noted, many of the issues associated with these two projects are common to both. The Determination Report for the Boggabri Coal Project [PAC, 2012c] deals with many of these issues in considerable depth, particularly where the Department’s Assessment Report and recommended conditions deviate significantly from the Boggabri Review Report recommendations. The Commission has not repeated this material in this Determination Report unless the particular circumstances of the project are different (e.g. final landform proposal), or some adjustments need to be made to the approach in the Boggabri approval conditions (e.g. management of PM$_{10}$ emissions). Where there are differences, they are covered in detail in this Report (see sections 1-7 below).

The specific areas where reference to the Boggabri Coal Project Determination Report may assist a reader wanting further information are:

- Approaches to managing biodiversity impacts;
- Approaches to noise impacts;
  - Operational noise;
  - Rail noise;
  - Impact on land other than residences;
  - Cumulative noise impacts; and
  - Exceedances of noise limits;
- Approaches to air quality impacts;
  - Compliance with criteria;
  - Occupants of mine-owned residences;
  - Management of operations under adverse weather conditions;
  - Management of PM$_{2.5}$ emissions; and
  - Acquisition criteria.
1. VEGETATED BUFFER CORRIDOR

1.1. Background
Leaving a vegetated buffer corridor of 500m width between the Boggabri and Maules Creek Mining projects was recommended by the two PAC Reviews, OEH and the Department’s Assessment Report for Boggabri and was subsequently adopted in the Boggabri Coal Project determination.

The corridor was described as having two purposes:
(i) to act as an impediment to groundwater movement between the two pits; and
(ii) to provide a regional corridor for movement of fauna between the east and west sides of the mine sites.

In its determination of the Boggabri Coal Project the Commission allowed for some limited flexibility in the siting of the corridor between the two mines. The default position was 250m on each side of the boundary line, but with the option of negotiation between the mines to provide an equivalent 500m corridor in the general vicinity of the boundary that was acceptable to OEH and to the Department.

While this outcome was acceptable to the Boggabri proponent, the Maules Creek proponent has raised objections. These objections are based on a number of grounds:
(i) the economic cost of sterilising a substantial coal resource (see 1.2 below);
(ii) the lack of clear justification for retention of a 500m corridor in this location to facilitate movement of fauna between the eastern and western sides of the mines (see 1.3 below); and
(iii) the lack of clear justification for retention of a solid coal barrier to impede movement of groundwater between the pits (see 1.4 below).

1.2. Economic cost
The Maules Creek proponent asserts that the original recommended corridor (250m each side of the lease boundaries for the two mines) would sterilise 38.6Mt of coal on its side which is 16% of the 240Mt resource and has a value of approximately $3.15 billion.

The Commission has not sought to verify these figures. However, even if discounted 50% the impacts are substantial and must be considered carefully. The Commission also notes that simply moving the corridor to the south does little to lessen the economic impacts, since the loss of coal on the Boggabri side of the boundary also appears to be substantial (Department’s Assessment Report p.35).

The Department’s Assessment Report (p.36) notes that ‘no detailed comparison between the assessed ecological value and the value of the contained coal resource has been undertaken (i.e. it has not been subject to an adequate cost benefit analysis)’. This kind of argument is often presented when potential impacts on significant natural features are likely to obstruct the full exploitation of coal resources. The Commission has noted in response that narrowly-based cost-benefit analyses of the kind usually undertaken for coal mining projects are unlikely to ever value any single environmental attribute or feature above the value of the coal that would have to be foregone to protect it. The Commission’s view is that such assessments should therefore be approached with extreme caution rather than being uncritically accepted as justifying propositions for destruction of significant natural features. The techniques available for placing an economic value on natural features are still relatively crude and, in the Commission’s view, their application usually falls well short of the standard required to withstand rigorous scrutiny.

The Commission also notes that the Department’s Assessment Report for the Boggabri Coal Project [Department of Planning and Infrastructure, 2012a] supports retention of the 500m
vegetated buffer (with 250m to be contributed by each project), and does not raise the economic cost of the coal foregone as an obstacle to retention (Appendix J, p.84).

1.3. The need for a biodiversity corridor
The Maule’s Creek PAC Review Report noted the importance of Leard State Forest as a significant area of modified, but high quality, natural remnant vegetation linking other areas with retained natural values to the east and west. The Review also noted the significant impact the mining proposals would have on this linkage function. The Review therefore sought to maintain an area of natural vegetation of sufficient width to provide a functional corridor on the east-west axis of the Forest.

This corridor was clearly identified as having a regional focus (see Review Report pp.23 and 24) and the 500m minimum width was chosen based on OEH advice that, from the information in existing studies, this was the minimum likely to be able to retain functionality in the face of edge effects (some studies have suggested that widths of up to 1000m may be required). The Review Report does not canvas the specific edge effects that open-cut mining on either side of such a corridor may have on the functionality of the corridor. These additional impacts include major hydrologic change, dust, noise and blasting.

The specific location of the proposed corridor appears to be based on equitable sharing of the burden between the mines, combined with a possible benefit from reduced groundwater permeability between the pit shells (Review Report pp.23-24). There is no evidence presented to demonstrate that the particular location chosen (250m on each side of the lease boundaries) is any more (or less) suitable than any other area of the Leard State Forest for the corridor function.

The Review also noted that mining of the corridor was possible in the future (Review Report p.24), although the mining technique was not specified. There were a number of caveats for future mining:

(i) a separate application should be required, not modification to the current approvals for the two mines;
(ii) an alternative biodiversity corridor of the same or better quality would need to be available; and
(iii) the matter should be addressed in the review of the Regional Biodiversity Strategy proposed for 5 years after approval.

The bottom line is that retention of a corridor function is paramount and that mining should not occur in the 500m exclusion zone unless a satisfactory alternative is available.

The letter of 20 July 2012 from the Proponent’s consultants (Hansen Bailey Pty Ltd) [Appendix 2], in response to the Department’s recommended conditions of approval raises a number of issues concerning the biodiversity aspects of the 500m corridor. They include:

(i) the corridor is not a regional corridor (p.3);
(ii) the rehabilitation at both sites would be well advanced by the time mining would occur in the 250m exclusion zone and that this rehabilitation would provide suitable habitat for the mobile species that would utilise the land within the region; and
(iii) the 500m corridor is not stand-alone. It is just part of the regional corridor that will be developed as a result of offsets, re-vegetation programs and mining rehabilitation.

The Department’s Assessment Report adds to these at p.36:
(iv) that the Proponent suggests that, because the threatened species in the Forest are winged species (i.e. birds and bats) the corridor is not essential to their mobility; and
(v) that the area proposed to be retained as a barrier between the mines under the proposed mine plans provides an equivalent total vegetated area, even if of a different shape.
These contentions require comment:

(i) the Proponent’s contention that the 500m corridor is not intended to have a regional function does not accord with the clear focus of the OEH submission, the two PAC Reviews and the Department’s Assessment Report on the Boggabri Coal Project. All these sources identify a regional function. The Proponent’s contention is simply not credible.

(ii) Rehabilitation will not be well advanced at both sites by the time the Maule’s Creek project reaches the 500m corridor. This occurs in Year 10 according to their own mine plan, which does not allow enough time for significant areas of rehabilitation to establish and reach sufficient maturity to provide adequate cover for most fauna species.

It is possible that rehabilitation at the southern part of the Boggabri Coal Project will be well advanced by this time, but there is a substantial amount of work to be done to demonstrate that this rehabilitation could provide the necessary corridor function for all species present in the Forest (or which use the Forest for east-west movement), or that sufficient of it would be available for this purpose.

(iii) The assertion that the 500m corridor is not stand-alone must be considered in the context of the timing of the threat to the movement of fauna across the east-west axis of the Leard State Forest. Whilst the long-term outlook may be reasonable, the fact is that substantial re-vegetation work is required on the offsets proposed to the north of Leard State Forest and these will not perform a corridor function in the 10-15 year horizon (a point acknowledged by the Proponent in a meeting with the Commission). There is also no suitable vegetated land to the south of Leard State Forest that could perform this function. Provision for fauna movement must therefore come from within the Forest precinct – either by exclusion of mining, providing suitable rehabilitated areas, or some combination of these.

(iv) The assertion that the threatened species utilising the Forest are winged species and the corridor is therefore not essential for their mobility appears to suggest that these species would traverse the open areas. Whilst some individuals of some species may be prepared to do this, the majority of winged species will not. They require understorey vegetation to provide protection and will not venture into large open areas. The assertion borders on biological nonsense; and

(v) The assertion that the area already proposed to be left vegetated under the existing mine plans (221 ha) is somehow equivalent to the proposed 500m wide corridor (331 ha) ignores the importance of corridor width in coping with edge effects.

The Commission finds:

- That there is no credible proposition put by the Proponent that negates the earlier Review findings that provision must be made for a viable east-west regional corridor;
- That neither the offset strategies, nor the rehabilitation proposed for the Maules Creek project, will be capable of providing this function within the timeframe proposed for accessing the coal within the corridor; and
- That the capacity of rehabilitated areas on the Boggabri mine site to provide for the corridor function at the time of proposed access has not been demonstrated.

The question for this Commission is how best to provide for this corridor. The approach recommended in the Department’s Assessment Report is essentially the option adopted by the Commission for the Boggabri Coal Project determination: a defined 500m corridor, located near the boundary between the two mines with the final positioning to be agreed
between the mines subject to approval by OEH and the Director-General. The default position if no agreement is reached is 250m each side of the common lease boundary.

There are two main problems with this:

- Maule’s Creek want to commence mining within the 250m in 10 years. It is thus questionable whether it is appropriate to adopt a position in this approval that will require major modification in a relatively short timeframe to meet a known contingency – particularly when the history of coalmining approvals in NSW involves multiple major modifications approved at officer-level within the Department with no public process or external oversight.

In this context the Commission notes that the approval cannot control the modification process and that the Department’s Assessment Report clearly favours modification rather than the Review’s call for a separate application.

In the Commission’s view the defined corridor therefore carries significant process vulnerabilities.

- The Commission is also concerned about the longer-term viability of a 500m-wide fixed corridor that has open-cut mines on either side. Apart from the direct impacts from mining operations (blasting, dust, noise, flyrock, etc), the Commission considers that there is a high likelihood that the hydrology of the corridor will be substantially altered. This occurs because the corridor lies squarely within the zone of depressurization for the mines and the source of any recharge is limited to the area of the corridor itself. In short, any vegetation that relies on groundwater or deep soil moisture for all or part of its water requirements will be impacted negatively. Informal advice obtained by the Department from OEH also suggests that the corridor would be exposed to high levels of wind because of the exposed edges being adjacent to substantial open cuts. This would also add to evaporation losses.

Although the proposed corridor does not contain identified Groundwater Dependent Ecosystems (GDEs) the Commission considers it highly likely that the habitat value would decline rapidly from the various mining-induced exposures.

1.4. Groundwater movement between the pits

The PAC Review (p.44) makes the point that retention of a coal barrier between the two pit shells to impede the flow of groundwater is consistent with its recommendation for retention of a biodiversity corridor. The desire to impede the flow of groundwater arises from a recommendation in Dr. Mackie’s report, annexed to the Review Report, to the effect that ‘any coal barrier between the final void and any future surrounding mining operations must remain intact in order to impede the exchange of any contained groundwaters in the Maules Creek pit shell’ (p.77). An identical recommendation is made in respect of the Boggabri Coal Project in the Boggabri PAC Review Report [PAC, 2012a].

From the perspective of impeding the flow of groundwater there is no substantive discussion in the Review Report of the purpose of impeding the flow. There is a comment in Hansen & Bailey (letter to the Department of 20 July 2012 at p.10) to the effect that the barrier was intended to ‘impede the exchange of poorer quality waters (potentially resulting from saturated rejects materials) between the Boggabri and Maules Creek mining areas as part of the final landform’.

In this context Hansen & Bailey make two points:

- that the Proponent has committed to managing Potential Acid Forming (PAF) materials so that there is negligible impact on water quality; and
that the Review Report was advocating discharge of groundwater to the environment from the final landform. For this to occur the quality of groundwater in the pit shell would have to be of a suitable standard. Since a similar situation was recommended for the Boggabri project, the groundwater in both pit shells would have to meet the same water quality requirements. If this is the case then impeding the flow between the pit shells provides no clear environmental benefit.

Dr Merrick (the Proponent’s groundwater consultant) also made the point to the Commission (meeting 28 September 2012) that the barrier/corridor between the two mines would not prevent groundwater movement between the shells; it would only impede it by some (unquantified) extent. Hansen & Bailey (p.10) therefore contend that there is no environmental purpose to be achieved by retaining the barrier to impede groundwater exchange.

The Commission notes the precautionary approach taken by Dr. Mackie and the PAC Review Report. However, the economic cost of not mining the barrier coal is very substantial (Department’s Assessment Report, pp.35 and 56). The Commission’s view is that the environmental objective to be achieved by not mining it would have to be equally significant (although not necessarily of the same monetary value – see 1.2 above). The available evidence simply does not support retention of the coal barrier for the purpose of protection of groundwater as being of this level of significance.

The Commission’s finding is that, provided PAF materials and coal reject leachate are prevented from contaminating the environment beyond the two mine sites, there is no compelling case to retain the barrier for the purpose of impeding groundwater movement between the Boggabri and Maules Creek Coal Projects.

What is required is very strong conditioning concerning the management of PAF materials and coal reject leachate. Appropriate conditions have been included to reflect this.

1.5. Commission’s Findings

Superficially, Maule’s Creek appear to be the only objector to the corridor. Two PAC Review Reports, the Department’s Assessment Report for Boggabri (see Appendix J, p.84) and the Commission’s determination report for Boggabri (pp.5-6) and the Environmental Defender’s Office (letter of 10 October 2012) all endorse retention of a vegetated corridor between the mines. The Boggabri Proponent also accepted the requirement without strong objection.

The apparent anomalies in approach may simply lie in the stage at which the respective mines reach the proposed 500m corridor. Boggabri does not reach it until very late in the project and some of the corridor is outside the current project area. Maules Creek on the other hand will reach it around Year 10 and will need to commence mining it at that time or not at all (the cost of going back to mine at a later stage would be prohibitive – see p.36 Assessment Report). Maules Creek must therefore force consideration of the issue now.

As the Department notes in its Assessment Report, the differential staging of approaches to the common lease boundary provides some opportunity for managing this situation since, even if Maules Creek were allowed to mine their part of the 500m corridor, a corridor of 500m minimum width would remain on the Boggabri side until at least Year 17 or 18.

The Commission has already indicated that it doesn’t consider the precise location of the corridor to be the critical issue for regional movement of fauna (Boggabri Determination Report p. 5). The purpose of the corridor is to provide sufficient suitable habitat on an east-west axis to substitute for the connecting function currently performed by the vegetation in Leard State Forest. The critical issue is therefore that a connection corridor of sufficient
minimum width (nominally 500m based on OEH advice) and quality is available by the time the two mining projects get within 500m of each other.

The Commission’s findings on this issue are:

- A regional movement corridor is required to be provided to substitute for the current connection function performed by the vegetation in Leard State Forest;
- The precise location of this corridor is not critical provided that the corridor:
  - maintains the east-west connectivity currently performed by Leard State Forest; and
  - is of sufficient width and sufficient quality to perform the connection function by allowing unrestricted movement of fauna.
- ‘Sufficient quality’ involves assessment of the suitability of the vegetation in terms of species composition, density, maturity, etc. and the capacity of the corridor habitat to provide sufficient shelter and food to encourage use by fauna for movement purposes. ‘Fauna’ in this context refers to species likely to be present in the area and which would make use of the habitats in Leard State Forest;
- The critical time by which a substitute east-west connection must be available is when two mining projects approach within 500m of each other; and
- Mining within the areas within 250m of the lease boundaries is highly likely and this approval should contain the mechanism and conditions under which this can occur.

The Commission notes that both the current approval for the Boggabri Coal Project and the recommendations in the Department’s Assessment Report for this project contain most of the elements required to produce a satisfactory outcome. However, some modifications to both are required as set out below.

The Commission considers that the relevant condition should prevent any clearing of native vegetation within 250m of the common lease boundary between the two mines until a satisfactory and fully functional alternative east-west corridor is in place. This will force the mines to deliver a solution without prescribing how such a solution might be delivered. The weakness in the ‘fixed corridor’ prescriptive approach is that the fixed corridor may be conceptually attractive, but may not be sustainable in the face of the assaults from edge effects, wind and hydrologic change.

The revised condition should read:

The Proponent shall not clear native vegetation within 250m of the adjoining Boggabri Coal Project lease boundary unless:

(i) The Proponent has provided an alternative area of equal or better habitat value for the purpose of providing a fully effective east-west movement corridor for native fauna; and

(ii) The alternative area is capable of delivering this outcome before clearing commences within the 250m;

(iii) The alternative area is either under tenure arrangements that ensure its maintenance for biodiversity purposes in perpetuity, or there is an enforceable commitment to deliver this outcome;

(iv) This alternative area has been endorsed by OEH and subsequently approved by the Director-General.

**Notes:**

- The alternative area may be provided by way of offset or by way of suitable rehabilitated land within the Boggabri Coal Project Area or the Maules Creek Project Area.
- The alternative area may be provided by the Proponent or the Proponent in conjunction with the Boggabri Coal Project Proponent.
The risk for the Proponent is that they are unable to demonstrate to the satisfaction of OEH that either a proposed offset, or the advanced rehabilitation of the Boggabri Project Area, is of sufficient size and quality to provide an adequate regional movement corridor. In this context the Commission would make a number of observations:

- to the Commission’s knowledge there is no potential offset property available that would provide the corridor function within the required timeframe;
- although the conditions of approval allow consideration of Maules Creek Project rehabilitation, the reality is that only Boggabri Project rehabilitation is likely to be sufficiently advanced by the time Maules Creek would seek to commence mining in the exclusion zone;
- it is in the interests of both mines to maximize the quality of rehabilitation on the Boggabri Project Area and to ensure it includes the widest range of habitat options (recognizing that mature tall trees will still be absent – a point also made by the EDO in their letter of 10 October 2012). This may include artificially replicating some key habitat features such as tree hollows; and
- it is in the interests of both mines to work with OEH to design and implement the studies that would assist in demonstrating whether an adequate corridor function had been delivered.

2. **FINAL VOID**

2.1. **The Options and Issues**

The Department’s Assessment Report provides a comprehensive summary of this issue at pp.58-60. The key points are:

- The EA put forward two options. Option 1 was a ‘standard’ open void with no backfilling and a resultant pit lake. The pit lake would gradually fill to about RL 225 m after 1000 years and would act as a permanent groundwater sink with a zone of depressurisation extending some 5-7 km from the pit. Salinity would gradually increase to 9000 mg/l. Option 2 involved backfilling and reshaping the final void to RL 310. This would result in groundwater equilibrium being reached in some 300 years. There was a risk of a shallow pit lake forming with resultant salt scalding, but the overall environmental outcomes were better than for Option 1. The EA did not express a clear preference for Option 1 or Option 2.

The PAC Review considered both options and recommended a modified version of Option 2. This modification required that the final landform was free-draining to the catchment and involved either additional backfilling and/or a channel to a modified spill point in the pit shell. This eliminated most of the undesirable impacts of Options 1 and 2 including the highly saline pit lake, the extended zone of depressurisation, the risk of salt scalding and the long-term loss of water from the creek systems and their alluviums.

- The Proponent responded by rejecting both the PAC Review recommendation and its own Option 2. The principal argument is the additional cost over Option 1. For Option 2 this is estimated as $423 million (the cost of backfilling) and for the PAC modification some $8.4 billion in sterilised coal and between $388 million and $813 million for backfilling etc., depending on the way the free drainage was achieved. The Department appears to have accepted these estimates but the Commission has no independent verification that they are accurate. However, even discounted 50% they are significant and the environmental benefit must be commensurate.

- Other issues raised in the Department’s Assessment Report in support of Option 1 include:
  - The NSW Office of Water (NOW) is not opposed to Option 1 and the Proponent is able to purchase water entitlements to offset the catchment losses and compensate any bore holders who are impacted;
Open voids with pit lakes are a common final landform after open-cut mining in NSW. Backfilling is usually only undertaken where the topography and availability of materials make it both desirable and economically feasible. (This issue is discussed in more detail in 2.3 below.)

The Maules Creek mine will probably continue beyond the 21 year period covered by this approval. Any highly prescriptive conditions concerning final landform may therefore prove to be counter-productive in terms of environmental outcomes as well as economic outcomes;

Backfilling is itself an environmentally negative process in terms of energy use and dust generation. In this case it would, of necessity, involve multiple disturbances of overburden emplacements.

2.2. Commission’s consideration and conclusion
This Commission is once again faced with a PAC Review Report recommendation and an opposing Departmental Assessment Report recommendation. The main difference in information available to support the two recommendations is that the Department had access to costings for the final void options that were not available to the Review. The EDO (letter 10 October 2012) has argued that the PAC Review position should prevail.

The Commission has commented previously on the problem when a PAC Review recommends a course of action after considering both the existing Departmental practice and the particular circumstances of the project and the Department then recommends the opposite by simply reverting to existing practice (see Boggabri Coal Project Determination Report pp.15-16). However, the current situation is a little different. The Review has expressed strong support for a particular option on environmental grounds and the Department has responded with a suite of reasons why, for this particular project, an alternative option should be pursued.

This Commission agrees with the PAC Review that the long-term environmental outcomes would be better with a free-draining final void. However, the suite of arguments in the Department’s Assessment Report are persuasive; in particular those relating to cost, the likelihood that mining will continue beyond the term of this approval, and the fact that in NSW there is no existing policy discouraging the use of final voids with a pit lake.

The Commission has therefore concluded that the Maules Creek Coal Project should proceed on the basis of a final void that is open and contains a pit lake that will form an hydraulic sink. The Department’s recommended conditions have been adopted.

2.3. Policy matters requiring attention
Two issues arise from consideration of the final void for this project. The first is that a 21-year approval horizon for an open-cut mining project that will most likely extend beyond this timeframe means that it is not possible to be specific about something that is a key element of any open-cut mining project approval – the final landform. Whilst this has been addressed for this project by adopting general principles and various plan requirements, there is no certainty as to what the final outcome will be.

The second issue is the lack of any NSW policy direction in relation to pit lakes as a component of the final landform for open-cut mines. Advice to the Commission is that pit lakes are generally undesirable and that they should not be an ongoing feature of open-cut mining approvals in NSW. However, although it appears that there are long-term environmental benefits from avoiding pit lakes, in many cases there may also be significant short-term costs. This needs to be examined carefully by the relevant agencies in NSW with a view to providing comprehensive policy guidance to industry, environmental consultants, government agencies and decision-makers.
3. NOISE

The issue of noise in the Leard State Forest mining precinct was canvassed extensively in the Boggabri Coal Project Determination Report (pp.6-15). The Department has referred to that report in the Assessment Report for this project, but has simply reverted to its previous practice as the basis for its recommendations. Although the Department has provided more arguments in support of its overall position, with one exception the Commission finds these arguments unconvincing.

The exception concerns the treatment of land where more than 25% of the land is impacted by operational noise from the project. In the Boggabri Coal Project Determination Report the Commission determined that broad-acre agricultural properties ought not receive acquisition rights unless an existing or proposed residence was impacted. The Commission took the view that if noise did not cause a demonstrable impact on the productivity of the land, then it was unreasonable to require the mine to acquire the land. The Commission continues to hold that position.

However, since the Boggabri Coal Project Determination Report was published a number of submissions have been received arguing that some properties affected by the Maules Creek project are not broad-acre properties in the accepted sense of that expression, but are in fact 'lifestyle' properties. While the Commission is not in a position to verify these claims individually, the Commission agrees that, where there are genuine impacts on either the economic development potential of the land or on lifestyle, then those impacts should be prevented or be compensated for in an equitable manner.

The options appear to be to create a mechanism for assessment of individual claims (a potentially complex and divisive process), or to determine a position that is likely to provide a satisfactory outcome for most affected landholders whilst retaining adequate protection for the Proponent from unreasonable claims. The Commission has opted for the latter.

The approach adopted is that, where noise impacts are predicted to be above 40 dB(A) on more than 25% of land and there is an existing residence on that land, then the landholder can require the Proponent to acquire the land. This will deal with the vast majority of affected land that could fall within the definition of 'lifestyle blocks' in the vicinity of Maules Creek.1 In particular it deals with the long narrow blocks where the residence is at one end of the block and falls outside the 35 dB(A) residential impact acquisition criterion.

Apart from the above change to acquisition rights for some landowners where more than 25% of land is impacted above 40 dB(A), the Commission has determined to follow the approval conditions for the Boggabri Coal Project in relation to noise. The Proponent has advised the Commission that it accepts this outcome.

The key elements are:

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1 Note that there is one ‘property’ on the northern boundary of the lease consisting of 3 distinct groups of blocks with each group appearing to have slightly different ownership arrangements. Of these groups only one, consisting of blocks 141-148, meets the criteria of 25% land affected and a residence. The second group consisting of blocks 149-155 has 25% land affected, but no residence, and the third group consisting of blocks 156-167 has neither affected land nor a residence. It may be that groups 2 and 3 fall within the definition of contiguous properties for the purposes of acquisition. However, this is a matter of fact to be determined through the negotiation and arbitration processes set out in the conditions attached to this approval and the Commission makes no finding in respect of their factual situation.
• Operational noise from use of the rail spur line is to be treated as project-related noise. The Department’s position is rejected as inequitable;
• Landowners with residences impacted by operational noise above 35 dB(A) for day, evening or night, are to be provided with the option of mitigation or acquisition in line with the conditions in the Boggabri Coal Project approval;
• The inversion class applicable is Class G unless the Proponent can demonstrate to the satisfaction of the EPA and the Director-General that Class F should apply;
• Cumulative impact will be dealt with using the same conditions as the Boggabri Coal Project approval i.e. a limit of 40 dB(A) (period) for day, evening and night. The Department’s position is rejected as inequitable; and
• Exceedances are dealt with in the same way as in the Boggabri Coal Project approval. The Commission notes the unsatisfactory nature of this outcome, but in the absence of the necessary policy work by the relevant agencies there appears to be no obvious way of improving the situation (see discussion at pp.13-14 of the Boggabri Coal Project Determination Report).

Several other matters require comment.
• The Department’s Assessment Report argues that its standard approach to noise mitigation and acquisition for residences should be applied to the Maules Creek Coal Project. The Commission has rejected this, opting instead to follow the recommendations in the EPA submissions, the two relevant PAC Reviews and the Boggabri Coal Project Determination.

The underlying issue is the magnitude of the impact experienced at rural residences if the Department’s approach of acquisition at ≥ 5 dB(A) above the PSNL is adopted. Because the background noise level in rural areas is typically difficult to measure, a default value of 30 dB(A) is allowed to be used rather than a measured background. This means that the PSNL is set at 35 dB(A) and the acquisition right at 40 dB(A). The real background is often much lower than 30 dB(A), which means the difference in perceived noise at the residence is often much greater than 10 dB(A), particularly in the evenings and at night, when the difference may be 20 dB(A) or more. At these noise levels a difference of 10 dB(A) is approximately a doubling of the noise. The Commission considers that imposition of this level of impact on rural residences without providing an acquisition option is unacceptable.

This issue was also raised specifically by Lithgow City Council in recent submissions and public hearings on the Coalpac Consolidation Project. The Council submitted that application of the Department’s standard approach would have significant negative impacts on residents in rural settings and that the artificially high background level allowed for in the default setting meant that these residents would be subjected to unreasonable noise impacts because of the difference between the true background level and the 40 dB(A) acquisition criterion. The Council predicted that a very high level of legitimate noise complaints would result.

The Department has also acknowledged informally that the differential between the real background level and the acquisition criterion will have significant impacts on rural residences and that complaint patterns in mining precincts appear to bear this out.

The Commission remains concerned at the Department’s approach to noise impacts at rural residences.
• The EDO has suggested (letter of 10 October 2012 [Appendix 1]) that an additional option be provided to affected residents by way of an opportunity for temporary
relocation at the Proponent’s expense during the mining operation. This approach was recommended in the Department’s Assessment Report for the Ashton South East Open Cut Project in August 2011 [Department of Planning and Infrastructure, 2011] and the recommended conditions were adopted by the Commission in the approval for that project in October 2012. However, the Commission considers that the standard condition allowing for individual written agreements between the Proponent and an affected landholder (as a substitute for the prescribed mitigation and acquisition options) gives sufficient flexibility to identify and implement tailored solutions in most circumstances.

- The Department has suggested (Assessment Report p.41) that one reason for maintaining its position for acquisition rights where more than 25% land is noise affected is to provide for acquisition of proposed offset properties at prices inflated above the market. This amounts to using a device designed for one purpose for a quite different purpose and in the process deliberately providing advantage to one third party over another. The Commission questions whether this is a legitimate use of the acquisition process set out in the approval.

- The Commission has received many submissions in multiple coal mining project determinations (e.g. Ashton South-East Open Cut, Warkworth, Boggabri and this project) challenging the fairness of the acquisition process. This issue was raised in the Boggabri Coal Project Determination Report (pp.8-9), but not specifically as an issue requiring review. However, as a number of the recent submissions on the Maules Creek project are focussed on the fairness of the system, the Commission considers that a review of the acquisition process is required.

The key concern of affected residents in this and other mining projects considered by the Commission appears to be that the market value on which any price calculations are based will already be depressed by the combination of the presence of any existing mines (usually relatively recent) and the threat posed by the current application 2.

On the other hand, the Department claims that acquisition prices are typically 140-160% above the market (see Boggabri Determination Report pp.8-9), but what constitutes ‘the market’ is not defined. Some proponents have also expressed concern that vendor expectations for the price to be paid for acquisition properties are often unreasonable.

The Commission considers that a review is required to set clear operating principles for the acquisition process to guide affected residents, proponents, valuers, assessment officers and decision-makers. That review should establish the approach to calculating a fair market value for the affected property. In the Commission’s view it should definitely exclude any impacts attributable to the project or its predecessors. The difficult question is how to treat the impacts associated with the broader encroachment of mining into an area, particularly when that encroachment is relatively recent. This is clearly a significant concern for affected communities and is often expressed as an inability to acquire anything comparable in an equivalent location based on the depressed market value of their mine-affected property.

The ancillary matters that should be included in an acquisition process, including an allowance for disturbance, removal costs, etc, should be included in the review.

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Note that the current application may have been on foot in some form or other for an extended period - in the case of Maules Creek there is an existing approval from 1990 that was never commenced.
These appear to be less of an issue than the calculation of the market value, but the process needs to be considered as a total package.

4. AIR QUALITY

The Department’s Assessment Report deals with air quality at pp.47-53. The Assessment Report raises two issues of significance in relation to the Boggabri Coal Project approval that require addressing by the Commission in the approval for this project. The first issue is the inclusion of cumulative criteria for 24 hr PM$_{10}$ levels in the table of criteria with which the mine must comply. The Department points out, correctly, that this means the Proponent becomes liable for exceedance of the criteria, even if its contribution to the exceedance is minor. (But presumably it must make at least some contribution to an exceedance in order to attract liability in the first place.) The Proponent may therefore be liable for prosecution for events that are largely outside its control.

The problem arises because the standard conditions advocated by the Department, which require the Proponent to take ‘reasonable and feasible’ actions to comply with the criteria, are considered to be insufficiently rigorous by both the Land and Environment Court (see the judgment of Preston CJ in ‘Duralie’$^3$) and the Commission (see the Boggabri Coal Project Determination Report at pp.15-16). However, both the Land and Environment Court decision and the Commission’s approval in Boggabri have unintentionally introduced this new problem in seeking to rectify the existing one.

The Commission has sought to address this in its recent determination of the Ashton South East Open Cut Coal Project [PAC, 2012d]. In condition 22 of Schedule 3 of the approval for that project the Proponent is required to ‘ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the Ashton mine complex does not cause or contribute to exceedance of the criteria in Tables 8,9 and 10 at any residence on privately-owned land’. A definition of ‘reasonable and feasible avoidance and mitigation measures’ is then included and this definition is tied to the development and implementation of the real-time air quality management system and to achieving the operational requirements for controlling air emissions. A separate requirement for compliance with a mine-specific emission limit for 24 hr PM$_{10}$ of 50 ug/m$^3$ was also included (condition 23 of Schedule 3).

The Commission considers that this provides a partial solution to the problem identified by the Department arising from the Land and Environment Court decision in ‘Duralie’ and the Boggabri Coal Project approval. However, the mine-specific limit of 50 ug/m$^3$ is probably set too high (but the Commission has no rational basis on which to adjust it at this juncture) and, in any event, the technology for detecting and proving breaches of mine-specific limits set for locations outside the Project Area is not readily available. Until these defects are rectified the Commission is of the view that emphasis on meaningful control of air quality emissions from coal mines should be focused on source controls including plant specifications and operational restrictions.

In relation to the appropriate policy for settling project-specific limits, NSW Health have argued strongly in submissions on the Ashton South-East Open Cut Project that the total allowable industry limits should be apportioned so that the 24 hr PM$_{10}$ assessment criterion of 50 ug/m$^3$ is not exceeded at any residence in the airshed. The issue is discussed in the Ashton Determination Report (October 2012) [PAC, 2012d] at pp.6-9.

While the assessment process for coal mines in NSW has not adopted the position of NSW Health to date, there is enough evidence concerning the health risks from PM$_{10}$ to warrant a

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$^3$ Ironstone Community Action Group Inc. v NSW Minister for Planning and Duralie Coal Pty Ltd [2011] NSW LEC 195
considered policy response from government that provides clear guidance as to how this issue should be addressed in future coal mining assessments.

The Commission recognises that the current project specific limit of 50 ug/m³ is the same as the assessment criterion for the airshed as a whole. Nonetheless the Commission notes that future adjustment of the project-specific limit will be possible via the EPL, following its first review – after a maximum of 5 years. It should also be noted that this is not the only mechanism for controlling PM₁₀ emissions. While it provides a prosecutable upper limit, the main controls for PM₁₀ emissions from the project are contained in conditions 29, 33 and 34 of Schedule 3.

The second issue raised by the Department is that exceedance of the short-term emission criteria is predicted to occur on rare occasions on a small number of properties and that allowance for this needs to be made in creating liability for breach of the criteria (Assessment Report p.52). The Commission agrees that this oversight needs to be corrected in this particular case and considers that this has been achieved by the changes to condition 29 of Schedule 3 and the inclusion of a note to condition 30 of Schedule 3.

For this project approval the Commission has also modified the condition relating to residential impacts on mine-owned land to bring it into line with the Commission’s recent approval for the Ashton South-East Open Cut Project. The Commission considers that the revised condition is a more accurate statement of what the Proponent ought to be required to achieve for residents on mine-owned land affected by the Maules Creek project.

Apart from the three modifications noted above, the Commission considers that the air quality aspects of the project are adequately addressed by the equivalent conditions in the Boggabri Coal Project approval. These have therefore been adopted in this approval.

5. SURFACE WATER DISCHARGES

The Department’s recommended condition of approval (condition 34 Schedule 3) notes that the mine is a zero discharge mine on the basis of the modelled meteorological events, but that events outside the modelled parameters may mean that discharge of treated water is required. The condition requires compliance with any volume and quality limits imposed in an EPL. The EDO (letter of 10 October 2012) has raised concerns with the Department’s approach.

The Commission is well aware that substantial pressure is often brought to bear on the EPA to authorize discharge of mine water when accumulated in-pit water is preventing operations occurring. The Commission therefore considers that a number of additional elements are required to ensure that the Proponent plans adequately for any such eventuality. These are:
- the mine may not discharge water unless it is of equivalent or better quality than the receiving water quality; and
- the mine may not discharge water unless in accordance with the conditions of an EPL.

6. BIODIVERSITY

The vegetated buffer corridor has been dealt with in detail elsewhere in this report. The other aspects of biodiversity management in the Leard State Forest precinct were dealt with in detail in the Boggabri Coal Project Determination Report. Where the Department’s draft recommended conditions for this project deviate from the relevant equivalent conditions in the Boggabri Coal Project approval, the draft conditions have been amended to reflect the Commission’s considered position on these issues. Most of the changes are of a minor nature.
The one exception concerns the structure of the rehabilitation conditions and the relationship of the Rehabilitation Management Plan to the Biodiversity Management Plan. The rehabilitation conditions do not express clearly that the primary objective of the rehabilitation is to restore/improve the biodiversity of the Project Area and that the Biodiversity Management Plan takes precedence over the Rehabilitation Management Plan (i.e. the Rehabilitation Management Plan must be consistent with the Biodiversity management Plan).

With these changes the Commission is satisfied that the conditions provide a comprehensive framework for mitigation and management of the biodiversity aspects of the Maules Creek Coal Project itself, and for the cumulative impacts of this project and the Boggabri Coal Project.

7. ISSUES REQUIRING REVIEW AND/OR FURTHER CONSIDERATION BY GOVERNMENT

There are a number of issues arising from the assessment and approval of this project that require further investigation and/or review in the context of coal mining assessments. Some of these have already been raised in the recent determination report on the Boggabri Coal Project. They are included here for completeness, although the substantive discussion is to be found in the Boggabri Determination Report. New issues are noted with an asterisk.

7.1. Noise

(i) whether application of fixed numerical thresholds to the options for compensating noise-affected residents across all coal mines in NSW, regardless of their project-specific characteristics, is consistent with the intent of the Act concerning merits-based assessment of individual projects;

(ii) whether noise impacts to land only (i.e. not residences) should automatically attract compensation in broad-acre agricultural settings where development is unlikely to occur;

(iii) whether a breach of the approval for noise exceedances should require more than a single noise event above the noise limit criteria;

(iv) whether the absence of a definition of ‘sustained’, or even any guidance as to what it might mean, creates considerable uncertainty for both the Proponent and affected residents;

(v) whether the current approach to cumulative impacts is equitable for affected residents in the situation where broad-acre agriculture is ‘invaded’ by coal mines and there is no other development likely to occur;

(vi) whether the 2dB measurement error allowance in the INP is still required; and

(vii)* whether the occupants of rural residences should be subjected to operational noise impacts from mines during evening or night time periods that are more than 10dB(A) above the real background noise level.

7.2. Air

(i) whether air quality criteria should be applied at both privately-owned and occupied mine-owned residences;

(ii) whether PM$_{2.5}$ criteria should become mandatory when these are adopted nationally;

(iii) whether 150 ug/m$^3$ is the appropriate acquisition criterion for cumulative 24hour PM$_{10}$ levels;

(iv) the appropriate operating restrictions in response to predictions from reactive management systems during adverse meteorological conditions; and

(v) * what is the appropriate mechanism for setting project-specific limits for PM$_{10}$ emissions? How is it to take account of the current PM$_{10}$ levels in the relevant airshed and the risks associated with authorizing cumulative PM$_{10}$ levels above the assessment criterion for 24 hour PM$_{10}$ levels of 50 ug/m$^3$?
7.3. Final Void

(i) * the 21 year limit for planning approvals for coal mines means that for some mines a key aspect of the mining approval – the final landform – cannot be prescribed with any certainty. The value of retaining a 21-year approval limit for mines that will almost certainly continue to operate beyond this timeframe should be reviewed; and

(ii) * the continued use of pit lakes as an option for inclusion in the final landform for coal mines has been heavily criticised in submissions on this project. The use of these lakes in NSW should be reviewed with the objective of providing clear guidance to industry and those involved in assessing projects.

7.4. Acquisition Process

(i) the fairness of the acquisition process has now been challenged in numerous submissions on multiple coal mining project applications, including the Maules Creek project. A review of the process appears warranted to determine whether there needs to be better guidance provided to all parties, particularly on how the market value is to be calculated given that the presence of other mines and the application under consideration, will have impacted the market.

COMMISSION’S DETERMINATION

The Commission has carefully considered the Director-General’s Assessment Report and recommended conditions, as well as the Review Report and the submissions on the application.

Both the Review Report and the Director-General’s Assessment Report concluded that the project has merit, however there were a number of significant differences between the recommendations of the Review and the conditions proposed by the Department. The Commission has thoroughly examined the issues associated with these differing views, as described in this report.

After careful consideration the Commission has made some amendments to the Department’s recommended conditions and has determined to approve the project, subject to these amended conditions.

Dr Neil Shepherd AM
Commission Member

Mr David Johnson
Commission Member
REFERENCES

Department of Planning and Infrastructure 2011. *Major Project Assessment – Ashton South East Open Cut Project (08_0182), and Ashton Coal Project Modification (DA 309-11-2001-i Mod 5) Director-General’s Environmental Assessment Report Section 75I of the Environmental Planning and Assessment Act 1979* August 2011. NSW Department of Planning and Infrastructure.  

Department of Planning and Infrastructure 2012a. *Major Project Assessment – Boggabri Coal Mine – (09_0182), Director-General’s Environmental Assessment Report Section 75I of the Environmental Planning and Assessment Act 1979* April 2012. NSW Department of Planning and Infrastructure.  

Department of Planning and Infrastructure 2012b. *Major Project Assessment – Maules Creek Coal Project – (10_0138), Director-General’s Environmental Assessment Report Section 75I of the Environmental Planning and Assessment Act 1979* August 2012. NSW Department of Planning and Infrastructure.  


APPENDIX 1
LETTER FROM THE NSW ENVIRONMENTAL DEFENDER’S OFFICE