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Submission on behalf of Coal Free Southern Highlands Inc to the NSW
Department of Planning concerning
water regulation and the Hume Coal Project

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Expert Reports considered

IESC Report: Advice to decision maker on coal mining project dated 8 May 2017

Pells Consulting Pty Ltd – Coal Free Southern Highlands Inc. Groundwater modelling of the Hume Coal Project dated 22 June 2017

Ryall Environmental Pty Ltd dated 19 June 2017 – impact from injection of coal washery rejects into mine panels

Dr Ann Young objection dated June 2017

Chris Jewell Report dated May 2017 – Hydrogeochemical Report

Coal Free Southern Highlands Inc (CFSH) objects to development application SSD 15_7172 of Hume Coal Pty Ltd (Hume).

Background

The Hume Coal Project, which sits within the Sydney drinking water catchment area, proposes an unproven underground mine, often referred to as pine feather mine, to extract approximately 3.5M tonnes of coal per annum from a coal seam which sits directly under the Hawkesbury sandstone aquifer.

The pine feather design has sub-perpendicular plunges separated by slender coal pillars fanning out from gate roads. During the mining operations Hume proposes to partially fill the mined-out panels with a slurry of its coal washery rejects. The partially filled voids are to be sealed with bulk heads and will back fill with groundwater from the overlying aquifer.

In summary, the water impacts of the Project are sufficiently great that development consent should be refused as the evidence shows that the Minister for Planning will be unable to be satisfied:

- (i) that the necessary access licence and interference approval under the Water Management Act can be granted, and
- (ii) that there will not be a significant adverse impact on water resources which is prohibited under the relevant State and Commonwealth environmental protection legislation.

Hume states in its EIS that the water impacts of the project will be very substantial¹:

Groundwater inflows to the mine will occur during its operational life and for three years after coal extraction ceases (ie for approximately 22 years' duration in total). This will lower the groundwater level - called a "drawdown" - and it is predicted that 93 private landholder bores on 71 properties will experience a drawdown of 2 m or more due to the project. The average duration of drawdown on the 93 affected bores is predicted to be 36 years, with the maximum duration being 65 years. However, most of the recovery will occur in a far shorter time period; on average, a bore will recover by 75% within 23 years after it is first impacted.

Hume's Water Impact modelling is inadequate:

The most significant environmental impact anticipated by this Project is on ground water resources, particularly the Hawkesbury Sandstone Aquifer. The IESC Report and the numerous Expert Reports referred to in this Objection indicate very significant differences in anticipated impacts on water resources, pose numerous unresolved questions and set out substantial inadequacies in Hume's water modelling.

The Project must satisfy Water legislation and regulation:

Consideration of the Project's impact on water resources is central to an assessment of this Project. Hume must be able to satisfy the Minister for Planning that the Project meets the requirements set out in the Water Management Act. Otherwise development consent should not be granted.

The evidence demonstrates that a number of the requirements of the Water Management Act cannot be met by Hume and on this basis alone development consent should be refused.

The grounds of objection include, but are not limited to, the following:

- (i) **an access licence** is required by Hume to undertake the project. The Minister for Water will not be able to be satisfied that Hume can meet the "no more than minimal harm" requirements necessary for the grant of the required access licence. The Minister for Planning should refuse to grant development consent on the basis that the probable failure to be able to obtain the necessary access licence is a bar to approval of the project.

¹ EIS p ES.7 para 4.1.2

- (ii) **an aquifer interference approval** is required by Hume to undertake the project. The Minister for Water will not be able to be satisfied that Hume can meet the “no more than minimal harm” requirements necessary for the grant of an aquifer interference approval. The Minister for Planning should refuse development consent as the failure to obtain the necessary aquifer interference approval is a bar to obtaining approval for the project.
- (iii) the project is situated within the Sydney drinking water catchment. The Minister for Planning may not grant consent to the carrying out of a project unless he can be satisfied that the requirements of SEPP (Sydney Drinking Water Catchment) 2011 are met. That is, the carrying out of the Project must have a **“neutral or beneficial” effect on water quality**. The evidence indicates that the Minister cannot be satisfied that Hume can meet this standard.
- (iv) **the Precautionary Principle is triggered** requiring Hume to prove that the threat does not exist or is negligible. Hume’s admission of harm set out above means the precautionary principle has not been satisfied. Development consent should be refused on this basis.

Coal Free Southern Highlands Inc (CFSH) submits that the development application be refused, that MLAs 527, 528 and 529 be rejected and that Hume’s existing water access licence be revoked.

2 Legislative Requirements

This submission concerns water regulation in NSW in relation to the Hume Coal Project as described in its Environmental Impact Statement accompanying its Development Application submitted 15 March 2017.

2.1 Water Management Act 2000 (NSW) (WMA)

(a) Water access licence

Section 60I of the Water Management Act 2000 (NSW) requires Hume to hold an access licence authorizing the taking of water as part of the Hume Coal Project (**Project**). Hume states in its EIS² that it has an access licence however not for the allocation of water which it anticipates it will take as a consequence of the project. Thus, Hume requires a further access licence.

Section 63 of the Water Management Act states the Minister for Water is not to grant an access licence unless he is satisfied that there are “adequate arrangements in force to ensure that no more than minimal harm” will be done to any water sources.

The WMA does not define “no more than minimal harm”. Absent a definition in the Dictionary of the Water Management Act, the ordinary meaning of the words prevails unless there is something in the context to suggest that another meaning is intended³. “Minimal” is defined in the Macquarie Dictionary as “*smallest, very small, negligible*”. In the Oxford Dictionary, as “*Extremely small, of a minimum amount, very slight, negligible*”.

The NSW Department of Trade and Infrastructure released a policy entitled “*The Aquifer Interference Policy*” (**AIP**) whose purpose was to “*clarify the requirements for obtaining water licences for aquifer interference activities*” and “*establishing and objectively defines considerations in assessing and providing advice on whether more than minimal impacts might occur to key water sources*”⁴.

The Aquifer Interference Policy sets out in Table 1 the thresholds for key minimal impact considerations. Table 1 provides, for highly productive groundwater sources, a minimal impact of an aquifer interference activity is “*a maximum of a 2m decline cumulatively at any water supply work.*”

Hume’s statement in the EIS that “*it is predicted that 93 private landholder bores on 71 properties will*

² EIS Nepean Management Zone 1: Hume needs 2235 ML/yr and only has WAL for 1391 ML/yr in NMZ 1

³ Hall J in Australian Leisure and Hospitality Group Pty Ltd v Director of Liquor Licensing [2012] WASC 463 at [22]

⁴ Aquifer Interference Policy 2012 p1 [1.1]

*experience a drawdown of 2 m or more due to the project,”*⁵ identifies that the project cannot satisfy the minimal impact requirements of the AIP.

In addition, Pells Consulting Report states that Hume has underestimated the inflow of water into the mine by a factor of 10.⁶ Pells further states that its modelling predicts that the drawdown of groundwater of greater than 10 metres will extend 6 or 7 kilometres from the mine. Hydrogeology consultant Hydroilex estimates that, on that basis, more than 400 water bores will be affected, not the 71 identified by Hume.

As a consequence, the Minister for Water will not be able to be satisfied that Hume’s project will cause no more than minimal harm and should refuse any further access licence applications, or water allocations from or to Hume.

In circumstances where it is probable that the necessary access licences will not be obtained, the Minister for Planning should refuse to grant development consent.

(b) Aquifer interference approval

Similar “no more than minimal harm” considerations are applicable to aquifer interference regulation.

Aquifer interference is defined in the Water Management Act’s Dictionary as including “*the taking of water from an aquifer in the course of carrying out mining*”.

The Water Management Act requires those who carry out aquifer interference activities to hold an aquifer interference approval [s.97F WMA].

An aquifer interference approval may not be granted unless the Minister for Water is satisfied that adequate arrangements are in force to ensure no more than minimal harm to the aquifer, or its dependent ecosystems [s.97 WMA].

The statement by Hume “*it is predicted that 93 private landholder bores on 71 properties will experience a drawdown of 2 m or more due to the project,*” confirms that Hume anticipates more than “minimal harm”, as defined in the AIP, to the aquifer. Dr Ann Young’s and the issues set out at p.8 of the IESC Report, indicate that dependent ecosystems will also be impacted as a consequence of the project.

In circumstances where it is probable that the necessary aquifer interference approval will not be obtained, the Minister for Planning should refuse to grant development consent.

2.3 Environmental Planning and Assessment Act 1979 (EP&A Act)

The Environmental Planning and Assessment Act 1979 (NSW) sets out the matters which the Minister for Planning must take into consideration in evaluating a project under Part 4 of that Act. Those considerations include the provisions of any environmental planning instrument [s.79C(1)(a)(i) EP&A Act].

(a) SEPP (Sydney Drinking Water Catchment) 2011

The most relevant environmental planning instrument is the SEPP (Sydney Drinking Water Catchment) 2011 (**SEPP Drinking Water**). Clause 10 of SEPP Drinking Water is a mandatory consideration.⁷ SEPP Drinking Water provides that the Minister must not grant consent to the carrying out of a development unless he is satisfied that the development would have a “*neutral or beneficial effect on water quality*” [cl.10 SEPP Drinking Water].

In 2011, guidelines were promulgated to assist in the interpretation of what is a “*neutral or beneficial*” effect (Neutral or beneficial Effect on Water Quality Assessment Guidelines 2011). Those guidelines require, at clause 3.1 state:

⁵ EIS p.7 para 4.1.2 set out below.

⁶ Pells Consulting Report p.iii

⁷ 4nature inc v Centennial Coal Springvale Pty Ltd [2016] NSWLEC 121

*cl.3.1 A **neutral or beneficial effect on water quality** is satisfied if the development:*

- (a) has no identifiable potential impact on water quality, or*
- (b) will contain any water quality impact on the development site and prevent it from reaching any watercourse, waterbody or drainage depression on the site, or*
- (c) will transfer any water quality impact outside the site where it is treated and disposed of to standards approved by the consent authority.*

As the project is currently proposed, none of these three elements can be satisfied by Hume. There are two obvious identifiable potential impacts on water quality. The first, from the leaching of the contaminants from the coal washery rejects in the mine panel voids back into the Hawkesbury aquifer. The second, the “groundwater inflows to the mine” which will be discharged into Oldbury Creek. The Jewel and Ryall Expert Reports referred to indicate there are significant issues in relation to preventing the leaching of contaminants back into the Hawkesbury sandstone or containing this impact and as a consequence it is not likely to be possible to transfer the contamination off site.

The IESC Report notes the limited assessment of the potential surface water quality impacts on Oldbury Creek, Medway Rivulet and the Wingecarribee River and the potential ground water quality impacts from the leaching of contaminants from the stored coal washery rejects in the mine panel voids.

IESC and Expert Reports indicate it is not possible for the Minister “to be satisfied” that the carrying out of the proposed project would have a “neutral or beneficial effect” on both surface or ground water quality. Development consent should be refused.

(b) SEPP (Mining Petroleum and Extractive Industries) 2007 via s79C(1) and (3)

A second obvious planning instrument applicable to this Project is SEPP (Mining, Petroleum and Extractive Industries) 2007 (**SEPP Mining**).

(i) Aquifer interference requirements

Clause 12AB of SEPP Mining requires that interference with an aquifer does not exceed the respective water table, water pressure and water quality requirements set out in Table 1 of the Aquifer Interference Policy.

Hume’s EIS identifies there will be “a “drawdown”- and it is predicted that 93 private landholder bores on 71 properties will experience a drawdown of 2 m or more due to the project.’ This exceeds the water table requirements of Table 1 of the AIP.

The Minister for Planning should be satisfied that the Project fails to satisfy the maximum aquifer interference impacts set out in SEPP Mining.

(ii) Impacts on groundwater resources must be avoided, or minimised

Clause 14 of SEPP Mining provides that if any conditions are to be placed on the development consent that those conditions ensure that the impacts on significant water resources are avoided, or are minimised to the greatest extent possible.

It is submitted that the Minister cannot be satisfied that the placing of conditions on a development consent will result in the impact on water resources being “avoided”, as Hume have stated that there will be an impact on water resources which apparently cannot be avoided.

It is further submitted that the Minister for Planning cannot be satisfied that the placing of conditions on a development consent will result in the impact on water resources being “minimized to the greatest extent practicable” because the impact is already more than minimal even if one is to use the AIP as the yard stick.

Case law has interpreted the meaning of “avoided” and “minimize”.⁸ “Avoid” means to prevent. It is clear that

⁸ Barrington Gloucester Stroud Preservation Alliance inc v Minister for Planning and Infrastructure [2012] NSWLEC 197 at [103] As a transitive verb, “avoid” means “to prevent, to obviate, to keep off” ... or “to keep away from; to keep clear of; shun; evade” ... To “**minimise**” means “to reduce to the smallest possible amount, extent or degree” ... In the context of condition 3.5 both actions have the goal of, in effect, **reducing**

the impact on the Hawkesbury sandstone cannot be prevented. “Minimise” means to reduce to zero. It is clear that Hume has not developed a project which reduces the impact on groundwater “to zero”.

It would appear that Hume have attempted to address this issue by proposing to “make good” the impacts. We submit “make good” provisions do not satisfy the obligation to “avoid” or “minimize” in this case, as they are proposed as a remedy after the more than minimal impact has been caused.

The standard in a policy cannot override the standard set in legislation. Suggesting a remedy of make good after an admission of more than minimal harm, relies on a lesser standard than that required for approval of aquifer interference activities in the Water Management Act, that is “no more than minimal harm”.⁹

*The Minister for Planning cannot insert “make good” provisions for impacts on water resources which breach the standards set in the Water Management Act*¹⁰.

There are additional and very significant impacts on landholders if the Minister were to insert “make good” for water resources conditions as part of the development consent. The Acland decision¹¹ notes the “make good” conditions pose unacceptable burdens¹² on landholders.

(c) The public interest: the Precautionary principle

Section 79C(1)(e) EP&A Act requires the Minister for Planning to consider the public interest in the Development. Case law has given some substance to what the public interest consideration entails. The public interest includes the consideration of the precautionary principle¹³.

The precautionary principle was defined by CJ Preston in the Telstra case at [128].

“The application of the precautionary principle and the concomitant need to take precautionary measures is triggered by the satisfaction of 2 conditions precedent or thresholds: a threat of serious or irreversible environmental damage and scientific uncertainty as to the environmental damage. These conditions or thresholds are cumulative. Once both these conditions are satisfied, a precautionary measure may be taken to avert the anticipated threat of environmental damage, but it must be proportionate.”

Telstra case at [150] *“If the 2 conditions precedent are satisfied – that is if there is a threat of serious or irreversible environmental damage and there is the requisite degree of scientific uncertainty – the precautionary principle is activated. At this point, there is a shifting of an evidentiary burden of proof. A decision maker must assume that the threat of serious or irreversible environmental damage is no longer uncertain but a reality. The burden of showing that this threat does not in fact exist or is negligible effectively reverts to the proponent ... of the development”.*

The two limbs of the precautionary principle are triggered. The IESC Report makes it clear “key conclusions

to zero the gas migration risks and adverse impacts to the waters affected by the project.

⁹ There is no reference to “make good” in the Water Management Act, the EP&A Act or their respective regulations, or in the relevant SEPPs. The only reference to “make good” is in the Aquifer Interference Policy. The only reference to the AIP is in SEPP Mining and the reference is specific to the “**water table, water pressure and water quality requirements specified for item 1 in columns 2, 3 and 4 of Table 1 of the Aquifer Interference Policy**”. This reference does not include a reference to “make good”.

¹⁰ s.392(3) WMA The State’s water rights prevail over any authority conferred by or under any other Act.

¹¹ Acland Coal Pty Ltd v Frank Asham & ors & Chief Executive of the Department of Environment and Heritage Protection (no.4) [2017] QLC 24 (Acland case) at [1525]- [1535]

¹² Those being, unless the onus of proof is on Hume to prove the impact was not caused by the Project, a landholder would be required to prove that the loss of water was caused by the Project. Further a landholder would be required to prove the extent of the loss and continually demonstrate the extent of that loss both to groundwater and surface water until the water table equilibrates. Proponents have suggested monetary compensation; however, this does not equate to the provision of equivalent water to the property in perpetuity.

¹³ Telstra Corporation Ltd v Hornsby Shire Council [2006] NSWLEC 133 (**Telstra case**) [124]

cannot be verified because they are not supported by relevant data and information”¹⁴. The IESC states that there is scientific uncertainty in the predicted level of drawdown, the predicted impact on surface water, the predicted impact of the unproven mine plan, the predicted impact of the placement of mine rejects in mine voids, the predicted impacts of the use of lime on sterilizing the potential groundwater and consequent surface water from contamination. Other Experts highlight the lack of geological data, the use of parameters which are not applicable to the site for hydraulic conductivity.

We submit the evidence is clear from the Experts, including the IESC, that Hume has failed to demonstrate in its EIS that the threat of serious environmental damage does not in fact exist or is negligible.

2.3 Environment Protection Biodiversity Conservation Act 2000 (Cth) (EPBC Act)

(a) Water Trigger

The EPBC Act prohibits a corporation from undertaking a large coal mining development if the development has or will have a significant impact on a water resource [s.24D EPBC Act].

Hume, even on its limited modelling, states that the project will cause more than minimal harm to groundwater resources. The IESC were unable to state the predictive capacity of Hume’s water model and raise 9 pages of concerns with gaps in information, inconsistencies in application of information, uncertainties in impacts and limited assessments. The Experts Reports referred to in this report, particularly that of Pells Consulting, indicate very significant impacts, 10 times that predicted by Hume, on water resources.

It is submitted that the Commonwealth Minister for Environment must refuse consent under the EPBC Act because the Hume Project is likely, as currently proposed, to have a significant impact on the Hawkesbury Sandstone Aquifer.

(b) Critically endangered ecological communities: Southern Highlands Shale Woodland

The Southern Highlands Shale Woodland is listed as an endangered ecological community in Part 3 of Schedule 1 of the *Threatened Species Conservation Act 1995 (NSW)* (EEC). The EPBC Act provides that a person must not take action that has or will have, or is likely to have a significant impact on a listed threatened community.

The IESC Report notes the uncertainties in Hume’s water model in relation to impacts of water drawdown on groundwater dependent ecosystems including the Southern Highlands Shale Woodland. The evidence of Dr Ann Young provides that a drawdown of more than 10 metres over a sustained period will have a significant impact on the Southern Highlands Shale Woodland. Furthermore, Southern Highland Shale Woodland exists on the Martin and Alexander properties whose owners have been advised by Hume in writing that their water bores will be drawn down by over 40 metres and will not recover for decades. These letters are annexed.

It is submitted that the Commonwealth Minister for Environment must refuse consent under the EPBC Act because the Hume Project is likely, as currently proposed, to have a significant impact on the critically endangered and endangered ecological communities in and surrounding the project area.

If the Commonwealth Minister refuses to grant approval under the EPBC Act, the Minister for Planning cannot grant development consent.

¹⁴ IESC Report p2