



Hunter Environment Lobby Inc.

PO Box 188

East Maitland NSW 2323

7th February 2019

Independent Planning Commission Public Meeting

United Wambo Open Cut Coal Mine Proposal

Submission of Objection

Hunter Environment Lobby Inc (HEL) is a regional community-based environmental organization that has been active for well over 25 years on the issues of environmental degradation, species and habitat loss, and climate change.

In September 2016 HEL strongly objected to the proposal to develop the United Wambo Open Cut Coal Mine Project and stated then that it is a very poorly considered development. It has been very poorly assessed for environmental, social and economic impacts.

At the 2018 PAC Review HEL subsequently commissioned three further expert reviews of the biodiversity, water and air quality assessment.

One of those consultants, Dr Pells warned that there is an extremely complex groundwater environment here in this proposal, and to assess the groundwater models adequately, one has to take into account thirty four different levels of coal and inter-seam materials, which expel or attract water at differing rates.¹ We fully outline our issues with groundwater further on.

An important issue, we feel that is not addressed adequately is that of the Department's cursory look at the impacts of final voids on the post mining environment. In the PAR (Preliminary Assessment Report) which says the benefits outweigh the costs – but did not elaborate on the long term costs of final voids for a transparent view.

Other issues for clarification that the Department asked for were around the Biodiversity Offset proposals and the Rehabilitation Programme, there is still an outstanding lack of information in regard to the replacement of a critically endangered ecosystem on used mine land.

In the Final Assessment Report managing Green House Gases (GHG) and diesel emissions the report states that all reasonable measures to reduce emissions have

¹ Groundwater Impact Assessment Fig5-13 p.SO15.L1

been addressed. We support the EPA's objectives and ask how will the proponent reduce these emissions? This is not made clear in this report.

We note that a number of key technical reviews have been provided by our consultants in a separate meeting.

These reports cover a critique of the air quality and noise assessments, ecology and biodiversity offsets, groundwater and economic assessment.

We trust that the Commission will take note of this additional advice and conduct your own independent assessment of these key impacts, particularly in the context of cumulative impact from the existing large operations in close proximity.

As pointed out by ecologists there is no evidence that a complex natural system can be re-created on rehabilitated mine land.

The proponent says that in the first 0 – 7 years of operation 483 ha of rehabilitated mine land will be turned into a complex woodland, HEL finds this claim to have no merit by any standards. This claim is made in the Final Assessment Report 2.3.3. What guarantees does the proponent have to make these claims? What peer reviewed literature can we view?

For today's presentation we will concentrate on the proposed impacts on water sources, groundwater dependent ecosystems (GDE's) as well as looking at the Bioregional Assessment Report.

Impacts on water sources

The United Wambo open cut proposal is a significantly large disturbance to the environment of the Hunter Region. HEL is particularly concerned about the inadequacy of the assessment of cumulative impacts on water sources.

We consider that the predicted cumulative impact of this proposal is vastly understated.

This presentation is a summary of the key points made in our more detailed written submission that I will also table.

The DPE final assessment report and the proponent's response to the issues raised through the PAC review do not address the key underlying problems with the assessment of this large new disturbance in an area already saturated by mining impacts.

We consider it essential that a thorough, independent review of the assumptions used in the water models is conducted before this proposal can be determined on its merit.

The response to the PAC review argues that the key findings of the groundwater assessment demonstrate that the cumulative impacts from the proposal are small in comparison to the cumulative impact from regional mining.

This argument is more a testament to the extent of mining impacts that already exist.

The question needs to be asked by Commissioners - how far and how long can such an argument be sustained. The acceptance of this argument offers no absolute reference point for protection of environmental values.

Cumulative impact is additionality to, not proportionality of, existing impacts.

HEL considers that the DPE response to the 7 recommendations on water source impacts is highly inadequate and a number of the information requests are not met.

The reliance on the regulation of the Hunter system, and on the water management plan in the draft conditions, ignores many of the issues relating to water sharing rule exemptions for the mining industry and the extent of existing cumulative impacts.

The argument that the proponent holds enough water licences under various water sharing plans is irrelevant in regard to ongoing loss of water from the system.

For recommendation 37 regarding impacts predicted with any net catchment loss - DPE accepts the proponent's assessment of impacts with no further analysis. There is no analysis of the total loss of catchment area to Wollombi Brook from existing mine operations or total loss of surface flows over time.

There is no reference to water licence requirements or exemptions to the mining industry in regard to harvestable rights.

For recommendation 38 regarding Hunter Salinity Trading Scheme credits, we note there is a shortfall of 63 credits for this proposal.

It is imperative that these credits are obtained before the proposal can be determined.

There are no assurances that credits held for other projects will be available at the time when mine water needs to be discharged.

For recommendation 39 re additional information and assessment regarding the extent of any cumulative impact - we believe there has been a total failure by both DPE and the proponent to provide the additional information requested in this recommendation.

DPE relies on information provided in the Preliminary Assessment Report and the fact that the proponent holds sufficient water licences to cover any water loss.

However, there is no discussion of the fact that mining is exempt from the cease to pump rules in alluvial water sharing plans. So while the proponent may hold adequate entitlements, ground water will continue to be drawn down regardless of the environmental condition of the aquifer system and any protections within water sharing rules.

The proponent's response report at Table 3.19 outlines that approved cumulative impacts from existing and future mining reduce the net base flow of groundwater entering Wollombi Brook from 1,450 ML/yr to 1,000 ML/yr. The loss of 450 ML/yr base flow is a loss of nearly one third of the flow. This is a substantial loss.

Any additional loss is too much – it is not insignificant.

The Greater Hunter regional water strategy 2018 acknowledges that '*Reductions in the base flows of rivers have occurred, and will continue to occur, as mining intercepts surface runoff and lowers groundwater levels near rivers*'².

This draw down will continue while all other water users are on high level restrictions due to drought contingency measures. The longterm security of water supply is being threatened by the cumulative impact of mining on water sources.

This critical issue must be considered when assessing the merit of the United Wambo super pit proposal.

For recommendations 40 – 42 regarding groundwater monitoring - It is very concerning that of 77 monitoring bores only 31 are being used because the other 46 have either failed, been mined through or were dry when first established.

The failure of current mining impacts to be adequately monitored under conditions of approval leaves no faith that the draft conditions of approval for this large new mining impact will result in adequate monitoring or response.

We consider the performance measures for water management provided in Condition B44 Table 4 are inadequate.

It is also not good enough to leave planning for a response to any exceedances of performance measures or performance criteria for surface water or groundwater impacts until after approval.

HEL considers it imperative that plans to repair, mitigate and/or offset any adverse impacts on surface water or groundwater be described prior to the determination of the proposal.

It is highly negligent and very poor planning to leave the development of these important response mechanisms until after the impacts have been approved.

This is particularly notable for the monitoring of impacts on stygofauna. These animals provide important ecosystem services for groundwater sources and need to be protected.

For recommendation 43 regarding the Independent Expert Scientific Committee requirements – we note that the DPE final assessment report quotes verbatim a statement made by the proponent in relation to the IESC role in the planning process.

HEL would like to emphasise that the IESC has an important role under the water trigger requirements within the Federal environmental legislation in the assessment of the cumulative impact of mining on water sources.

DPE refer to information provided in the Preliminary Assessment Report and rely entirely on additional information provided by the proponent. There has been no independent assessment of the cumulative impacts on water sources.

² NSW Department of Industry Water, November 2018. Greater Hunter regional water strategy p 2

The repeat of the proponent's assertion that there will be no significant impacts on water sources beyond those already approved ignores the significant cumulative impacts already occurring in the Hunter Region, as identified in the Bioregional Assessment report. I will talk more about this report later.

Groundwater Dependent Ecosystems (GDEs)

HEL is greatly concerned by the proposal to leave further study of impacted GDEs for 12 months after commencement of development, as recommended in draft Condition B 45.

GDE1 on Redbank Creek comprises the endangered ecological community *Central Hunter Swamp Oak Forest* EEC. The alluvial aquifers beneath this GDE are predicted to be largely desaturated by existing approvals. Any additional draw down will be too much.

Both GDE1 and GDE2 on Wollombi Brook contain individuals of the endangered population of Hunter River Red Gum.

The DPE reports states that it is unknown over what extent and timeframe drought-tolerant GDEs can withstand prolonged dewatering and whether the incremental drawdown effects of the proposal would augment cumulative drawdown sufficiently to affect their viability or composition.

These GDEs contain threatened vegetation. They should not be subject to any further drawdown than already occurring through current approvals.

We are now seeing droughts becoming more severe in the Hunter thanks to climate change while at the same time allowing water sources to be severely impacted by coal mining operations.

This is not ecologically sustainable and should not continue.

The required further study of GDE 1 and GDE 2 must occur prior to the determination of the proposal. It is unacceptable for endangered ecological communities and endangered populations of GDEs in the Hunter to be subjected to greater impacts without knowing the consequences.

Bioregional Assessment Report

The Bioregional Assessment Report for the Hunter subregion released this year has estimated that the cumulative impact of mining will cause changes in water availability in the Hunter Regulated River at Greta that are *very likely* (greater than 95% chance) to exceed 5 gigalitres or 5 billion litres per year over the period 2013 to 2042³.

5 GL is equivalent to the estimated use of basic rights access in the Hunter regulated system, or half the Town Water Licences, or over twice the stock & domestic

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licences. This is a substantive volume of water to be lost from the system. This loss is born by other water users and the river environment.

Using a conservative value of \$1,000 per megalitre for water trading purposes this loss of flow to the river system is worth \$5m every year.

This significant impact must be considered as part of the merit assessment for this project.

The bioregional assessment also states that surface water hydrological change was possible around expansion of the Wambo Mine⁴.

This is prior to the impacts from the United Wambo super pit proposal.

The Commission must take a precautionary approach to assessing the merit of this very large mine expansion in regard to existing impacts of mining on major productive water sources in the Hunter.

Conclusion

I trust that the Commission will take note of the more detailed information provided in our full written submission and by our experts

We also urge you to seek your own independent expert assessment of the cumulative impacts of this project on the environment and surrounding communities.

Hunter Environment Lobby firmly remains of the opinion that the application should be rejected.

⁴ Ibid p15



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These GDEs contain threatened vegetation. They should not be subject to any further drawdown than already occurring through current approvals.

We are now seeing droughts becoming more severe in the Hunter thanks to climate change while at the same time allowing water sources to be severely impacted by coal mining operations.

This is not ecologically sustainable and should not continue.

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³ Australian Government, 2018. *Assessing impacts of coal resource development on water resources in the Hunter subregion: key findings*. p 1

licences. This is a substantive volume of water to be lost from the system. This loss is born by other water users and the river environment.

Using a conservative value of \$1,000 per megalitre for water trading purposes this loss of flow to the river system is worth \$5m every year.

This significant impact must be considered as part of the merit assessment for this project.

The bioregional assessment also states that surface water hydrological change was possible around expansion of the Wambo Mine⁴.

This is prior to the impacts from the United Wambo super pit proposal.

The Commission must take a precautionary approach to assessing the merit of this very large mine expansion in regard to existing impacts of mining on major productive water sources in the Hunter.

Conclusion

I trust that the Commission will take note of the more detailed information provided in our full written submission and by our experts

We also urge you to seek your own independent expert assessment of the cumulative impacts of this project on the environment and surrounding communities.

Hunter Environment Lobby firmly remains of the opinion that the application should be rejected.

⁴ Ibid p15



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~~12th December 2018~~
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In September 2016 HEL strongly objected to the proposal to develop the United Wambo Open Cut Coal Mine Project and stated then that it is a very poorly considered development. It has been very poorly assessed for environmental, social and economic impacts.

Hunter Environment Lobby sought expert technical reviews of the assessment of biodiversity and water impacts. These were attached as the following appendices:

1. Appendix 1 – Review of Ecological Assessment
2. Appendix 2 – Review of Biodiversity Issues and Rehabilitation
3. Appendix 3 – Review of Groundwater Impacts
4. Appendix 4 – Review of Groundwater and Surface Water Assessment

At the 2018 PAC HEL subsequently commissioned three further expert reviews of the biodiversity, water and air quality assessment. They were presented as:

- 1# Technical report on biodiversity assessment and inadequacy of proposed biodiversity offsets
- 2# Technical report on groundwater impact assessment including water quality
- 3# Technical report on air quality assessment

Hunter Environment Lobby firmly remains of the opinion that the application should be rejected.

Key issues are:

1. The impact on Critically Endangered Ecological Communities and fauna species threatened with extinction. There are no adequate 'like-for-like' offsets (See Stephen Bells of East Coast Flora Survey's updated comments as attached)
2. Permanent loss of base flows to Wollombi Brook and the Hunter River and drawdown of associated productive alluvial aquifers – and the risks to biodiversity as a corollary.

3. The retention of two large, highly saline final voids in the landscape predicted to be groundwater sinks in perpetuity.

I will outline one of our main focus' for today's hearing:-

Water Issues

The United Wambo open cut proposal is a significantly large disturbance to the environment of the Hunter Region. HEL is particularly concerned about the inadequacy of the assessment of cumulative impacts on water sources.

We consider that cumulative impact of this proposal is vastly understated. The DPE final assessment report and the proponent's response to the issues raised through the PAC review do not address the key underlying problems with the assessment of this large new disturbance in an area already saturated by mining impacts.

Independent expert Stephen Pells provided an important analysis of the groundwater and surface water assessment undertaken in the EIS in 2016. He raised issue with assumptions used in the groundwater model eg storage values, that may have caused an under prediction of impacts on base flows.

We consider it essential that a thorough, independent review of the assumptions used in the water models is conducted before this proposal can be determined on its merit. The argument that the key findings of the groundwater assessment demonstrate that the cumulative impacts from the proposal are small in comparison to the cumulative impact from regional mining is more a testament to the extent of mining impacts that already exist.

The question needs to be asked by Commissioners - how far and how long can such an argument be sustained. The acceptance of this argument offers no absolute reference point for protection of environmental values. Cumulative impact is additionality to not proportionality of existing impacts.

The PAC Review Report made seven recommendations on the assessment of impacts on water sources. We consider that these have not received an adequate response in the DPE final assessment before you.

Recommendation 37 – provide details of impacts predicted to be associated with any net catchment loss.

An increase of 53 ha or a 9% increase in catchment loss to Wollombi Brook will occur through an increase in drainage to the larger final voids.

DPE accepts the proponent's assessment of impacts with no further analysis. There is no analysis of the total loss of catchment area to Wollombi Brook from existing mine operations or total loss of surface flows over time.

There is no reference to water licence requirements or exemptions to the mining industry in regard to harvestable rights.

Mining operations are allowed the harvestable rights exemption for the containment of contaminated water.¹ There is no reference to how water reporting to the final void, rather than to surface flows in Wollombi Brook will be accounted for.

This is likely to be a direct loss to downstream water users with no management through existing water sharing plan rules or water licence conditions.

The proponent's response to the recommendation claims there will be no impact on flows to the Hunter River.² There is no evidence provided to support this claim.

However, the Bioregional Assessment Report for the Hunter subregion has estimated that the cumulative impact of mining will cause changes in water availability in the Hunter Regulated River at Greta that are *very likely* (greater than 95% chance) to exceed 5 GL per year over the period 2013 to 2042³.

5 GL is equivalent to the estimated use of basic rights access in the Hunter regulated system, or half the Town Water Licences, or over twice the stock & domestic licences. This is a substantive volume of water to be lost from the system that is born by other water users and the river environment.

The bioregional assessment also stated that surface water hydrological change was possible around expansion of the Wambo Mine⁴.

Recommendation 37 has not been addressed.

Recommendation 38 – Hunter Salinity Trading Scheme credits

DPE have confirmed that there is a 63 credit shortfall to cover mine water discharge into the Hunter River for this proposal.

The proponent states in their response that Wambo has 51 credits and Glencore holds 389 credits and that these are easy to trade.

However, these existing credits are associated with approvals for other mining operations in the region. The opportunity to use the trading scheme credits to discharge mine water have been very limited during drought conditions. Current operations holding credits may need to use them all if and when a flow event trigger occurs.

Any trading of credits to satisfy the needs of this proposal should occur prior to the determination – so that there is surety.

Recommendation 39 - additional information and assessment regarding the extent of any cumulative impact

There has been a total failure by both DPE and the proponent to provide the additional information requested in this recommendation.

DPE relies on information provided in the Preliminary Assessment Report and the fact that the proponent holds sufficient water licences to cover any water loss. However, there is no discussion of the fact that mining is exempt from the cease to pump rules in alluvial water sharing plans.

¹ NSW Department of Industry Water, November 2018. Greater Hunter regional water strategy p 20

² United Wambo response to IPC Main Text p 79

³ Australian Government, 2018. *Assessing impacts of coal resource development on water resources in the Hunter subregion: key findings*. p 1

⁴ Ibid p15

So while the proponent may hold adequate entitlements, ground water will continue to be drawn down regardless of the environmental condition of the aquifer system and any protections within water sharing rules.

The proponent provides information in Table 3.19 in their response report.⁵ This table provides no additional information on cumulative impact. It just reiterates the assessment already conducted.

Independent expert advice provided to DPE and IPC in regard to adequacy of the modelling assumptions and other assessment methodology has not been considered.

Table 3.19 outlines that approved cumulative impacts from existing and future mining reduce the net base flow of groundwater entering Wollombi Brook from 1,450 ML/yr to 1,000 ML/yr. The loss of 450 ML/yr base flow is a loss of nearly one third of the flow. This is a substantial loss.

There is no analysis of what this loss means in years of low flow, as being experienced now. Any additional loss is too much.

The proponent claims that the project will cause a loss somewhere between 0.5 ML/ yr and 37.4 ML/yr – this is a substantive variation based on modelling that is highly likely to under predict the loss.

The prediction is a loss of an additional loss of 57.7 ML/yr from base flows to the Hunter. There is no figure provided for the cumulative loss of base flow to the Hunter River from existing operations.

As stated earlier, it is estimated that the Hunter Regulated system is highly likely to lose more than 5 billion litres of water per year due to mining impacts on water sources. This is substantial and must be considered as part of the merit assessment for this project. Using a conservative value of \$1,000 per ML this loss of flow to the river system is worth \$5m every year.

The Greater Hunter regional water strategy acknowledges that '*Reductions in the base flows of rivers have occurred, and will continue to occur, as mining intercepts surface runoff and lowers groundwater levels near rivers*'.⁶

This draw down will continue while all other water users are on high level restrictions due to drought contingency measures. The long term security of water supply is being threatened by the cumulative impact of mining on water sources.

This critical issue must be considered when assessing the merit of the United Wambo super pit proposal.

Recommendation 39 has not been addressed

Recommendations 40 – 42: Groundwater monitoring

It is very concerning that of 77 monitoring bores only 31 are being used because the other 46 have either failed, been mined or were dry when first established.

The failure of current mining impacts to be adequately monitored under conditions of approval leaves no faith that the draft conditions of approval for this large new mining impact will result in adequate monitoring or response.

⁵ United Wambo response to IPC Main Text p 84

⁶ NSW Department of Industry Water, November 2018. Greater Hunter regional water strategy p 2

The performance indicators for water management provided in Condition B44 Table 4 are inadequate and rely on the information provided in the EIS as per Condition A2 (c). The Water Management Plan under Condition B 46 includes a plan to respond to any exceedances of performance measures or performance criteria for surface water or groundwater impacts.

The plan is to repair, mitigate and/or offset any adverse impacts on surface water or groundwater.

HEL considers it imperative that this plan be provided prior to the determination of the proposal. It is unacceptable that this significant issue of dealing with exceedances to predicted impacts is left to a process after approval.

HEL considers that the predicted impacts are under estimated and too great, that the EIS should not be the basis of performance measures and that any capacity to repair, mitigate or offset adverse impacts to surface and ground water sources is impossible.

It is highly negligent and very poor planning to leave the development of these important response mechanisms until after the impacts have been approved.

This is particularly notable for the monitoring of impacts on stygofauna. We need to know now, how the proponents will repair, mitigate or offset adverse impacts on stygofauna. These animals provide important ecosystem services for groundwater systems and need to be protected.

The proponent's response report identifies that biodiversity of stygofauna across the shallow alluvial aquifers was found to be high in the EIS. However, additional survey work requested by the IESC found that stygofauna biodiversity was low in the Hunter alluvium and non-existent in the places surveyed in the Wollombi Brook alluvium⁷.

This is an indication that the cumulative impact from mining on stygofauna populations in the deeper alluvium is already likely to be high. There should be no additional impact approved.

Recommendation 43 – IESC requirements

The DPE final assessment report quotes verbatim a statement made by the proponent in relation to the IESC role in the planning process.

HEL would like to emphasise that the IESC has an important role under the water trigger requirements within the Federal environmental legislation in the assessment of the cumulative impact of mining on water sources.

DPE refer to information provided in the Preliminary Assessment Report and rely entirely on additional information provided by the proponent. There has been no independent assessment of the cumulative impacts on water sources.

The repeat of the proponent's assertion that there will be no significant impacts on water sources beyond those already approved ignores the significant cumulative impacts already occurring in the Hunter Region, as identified in the Bioregional Assessment report.

Groundwater Dependent Ecosystems (GDEs)

⁷ United Wambo response to IPC Main Text p 92

DPE report acknowledges that there is some uncertainty around characterisation of GDEs on Redbank Creek (GDE1) and Wollombi Brook (GDE2) and how they may be impacted by the proposal⁸.

DPE also acknowledged that impacts to both GDEs are likely to be a result of cumulative impacts associated with combined dewatering effects of the Project and other mining operations in the region. These operations are likely to result in sustained groundwater depressurisation and reduced alluvial recharge rates in the locality for a significant period of time.

HEL is greatly concerned that these GDEs contain endangered ecological communities including individuals of the endangered population of Hunter River Red Gum. The alluvial aquifers beneath GDE1 that comprises of the endangered ecological community *Central Hunter Swamp Oak Forest* EEC are predicted to be largely desaturated by existing approvals.

Any additional draw down will be too much. What is unknown is the extent and timeframe over which drought-tolerant GDEs can withstand prolonged dewatering and whether the incremental drawdown effects of the proposal would augment cumulative drawdown sufficiently to affect the viability or composition of surrounding GDEs.

DPE has recommended condition B 45 requiring the proponent to further study GDE1 and GDE2 within 12 mths of the commencement of development. This study would include further:

- assessment of the hydrological and hydrogeological settings of the site;
- characterisation of the GDE's and their reliance on surface and groundwater resources;
- identification of potential risks to these GDEs from mining; and
- development of appropriate performance criteria and management measures to ensure negligible environmental consequences.

The key unknown factor is how long these groundwater dependent ecosystems can survive without water. Their drought resilience is based on access to some water in aquifer systems during extreme weather conditions.

We are now seeing droughts becoming more severe in the Hunter thanks to climate change while at the same time allowing water sources to be severely impacted by coal mining operations.

This is not ecologically sustainable and should not continue.

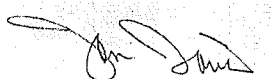
The required further study of GDE 1 and GDE 2 must occur prior to the determination of the proposal. It is unacceptable for endangered ecological communities and endangered populations of GDEs in the Hunter to be subjected to greater impacts without knowing the consequences.

The development of performance criteria to achieve the performance measures in condition B 46 are useless if the cumulative impact on this threatened biodiversity is already too great.

⁸ DPE Final Assessment Report p 28

We ask that the Commissioners do examine our consultants advice and think carefully before making a decision that will have overwhelming consequences, especially as the area being impacted environmentally is a large area that adds exponentially to already catastrophic cumulative impacts for our valley.

Sincerely Yours

A handwritten signature in black ink, appearing to read 'Jan Davis', with a stylized flourish at the end.

Jan Davis
President Hunter Environment Lobby Inc.