"Reclaiming our Valley"

Hunter Communities Network

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Submission of Objection

Mt Owen Continued Operations Project

Introduction

The Hunter Communities Network (HCN) is an alliance of community based groups and individuals impacted by the current coal industry and concerned about the ongoing rapid expansion of coal and coal seam gas exploration and mining in the region.

HCN strongly objects to the proposed expansion of the Mt Owen mining complex (the project) because there are a considerable number of cumulative social and environmental impacts that have not been adequately identified or assessed in the Environmental Impact Statement (EIS).

These include the cumulative increase in noise, dust and blasting pollution, the increased loss of amenity for neighbours, the increasing pressure on remaining private landowners, the cumulative impact on water sources including opencut mining operations occurring above underground operations and the cumulative loss of mature remnants of threatened species habitat on the Hunter Valley floor.

The complexity and intensity of the current mining operations in the vicinity of the Mt Owen complex already impose significant social and environmental degradation in the region. The additional impacts sought by the proponents through the proposed expansion cannot be adequately offset and have not been assessed in the context of their cumulative nature.

The Mt Owen mine has current approvals to continue mining operations to the year 2025 including rehabilitation requirements. This gives the company and the workforce 10 years to transition into other activities. The production of coal beyond that time is very questionable in the context of a global shift away from carbon intense industries.

The NSW Government and the coal mining industry have a responsibility to the economy and to society to move to investment in renewable energy sources to provide future jobs. The EIS does

not assess the cost to the Hunter and NSW economy of the climate impacts caused by the production of the predicted additional 137,653,000 tonnes of CO_2 equivalent.

HCN submits the following recommendations that need to be implemented to enable informed decision-making on this project:

1. that an independent review be conducted on the modeling produced to predict the air quality impacts
2. that an independent review be conducted on the modeling produced to predict the noise impacts
3. that a large scale regional noise model be developed to assess cumulative noise impact
4. that a regional study of the cumulative impacts of mining on the integrity of Hunter River system be undertaken

Key submission points:

1. Increase in air pollution

The key issue of cumulative air pollution in this part of the Hunter is identified in the Pacific Environment Ltd Air Quality Impact Assessment (the assessment report). Due to existing mining operations in the area "*Annual average PM_{10} concentrations are predicted to be above the criteria even without the project contribution.*"[1]

The issue of the cumulative load of dust due to open cut mining and the inherent impact on human health is not adequately considered by the mining industry or the NSW Government planning process.

The assessment report and the EIS downplay these impacts by emphasising the conservative assessment using worst case scenarios and that the major impacts will be on mine owned properties. HCN strongly objects to these conclusions. Particularly in light of the above quote.

HCN has major concerns about the quality of the data used to predict air quality impacts of the project and the way this information is used. These concerns include:

a. The data inputs used in the air dispersion model
b. Information from the Bureau of Meteorology station at Jerry's Plains, 19 kms from the mine site.
c. Existing activities already contribute to exceedances of PM_{10} concentrations
d. The inadequate cumulative impact analysis
e. The conclusion that other mines are responsible for increased dust

1.1 Air dispersion model

[1] Pacific Environment Limited, 2014. *Air Quality Impact Assessment* Appendix 6 Executive Summary p iv

The air dispersion model developed to assess the air quality impacts of the project is based on data collected from the two weather stations to the south of the mine. The period of 2011 to 2012 dataset was used. HCN notes that these were relatively wet years. The rationale for choosing this dataset is that it was the only complete one available between 2009 and 2012. There is no discussion of data available before 2009.

The model uses 2 g/m^2/month as the annual average dust deposition level across the modeling domain.[2] This is based on readings from dust deposition gauge DD6 which is more than 5km away from mining operations and outside the prevailing wind direction. The gauge is also away from the direction of the expansion and from the likely residents to be impacted by the project.

Gauge DG6 and DD11 have recorded levels of dust deposition above the criteria and are closer to the area of impact.

HCN considers this to be an inadequate database for the prediction of a 21 year project.

1.2 BoM information

The assessment report refers to information available at the Jerrys Plains BoM site, 19 kms from the project site as a background to local climate conditions. There appears to be no comparison with the weather data collected on site from the two weather/meteorological stations (met stations). There is also no indication that this BoM information is used in the model.

Five other BoM locations are identified as providing observed hourly surface data in the CALMET pre-processor for the outer grid domain[3]. The two onsite met stations (SX8 and SX13) and the Liddell met station are used for the inner grid domain.

HEL recommends that the meteorological data used in the air dispersion model be independently reviewed.

1.3 Existing air quality has PM_{10} exceedances

The assessment report indicates that the Mt Owen air quality monitoring network currently measures exceedances of PM_{10} criteria particularly at the PM_{10} 3ii monitor downwind of the mining complex during the dominant north westerlies.[4]

Figure 5.5 (p28) demonstrates that PM_{10} 4 monitor has also measured exceedances of annual average criteria and most recently. Figure 5.4 (p27) demonstrates that most of the PM_{10} monitors have measured exceedances of 24 hour criteria on a regular basis.

The analysis of dust deposition gauges around the mine site indicates records above the annual average criteria under current operations.[5]

[2] Ibid p 30
[3] Ibid p 42
[4] Ibid p 24

This is an indication that dust management on the site is difficult. These issues need to be carefully considered when reviewing the predications for air pollution from the project.

1.4 Cumulative Impact

The assessment report notes that '*the actual number of exceedances per year due to cumulative impacts cannot be predicted precisely*'[6] depending on a range of variables.

There are exceedances from existing activities recorded at SX8, SX9 and SX14 (fig 5.1). The latter two TEOM monitors, and particularly SX9, are in the direction of the project impacts.

The assessment report appears to incorrectly identify the number of private residences without existing acquisition rights to be impacted by 24-hour average 50 ug/m^3 criterion on more than 5 occasions per year.

Table 10.3 (p119) identifies that properties R4, R112, R114 and R116 fall into the above category. However, the assessment report states that there are three (not four) private residences. These residences are in the Middle Fallbrook area which will be impacted by the project.

HCN considers that the impacts will be greater than those predicted because of the inadequate inputs to the model.

1.5 Conclusion on cumulative impact

HCN does not support the conclusion that because other mines are predominantly responsible for the cumulative impact on air quality, that the impact from the project is minimal.

The very large area of mine owned property in the vicinity of the project indicates that the social and health impacts from mining in this part of the Hunter have been significant.

The additional load of dust generated by the project, when exceedances of criteria are already occurring, is a significant issue that is not given adequate emphasis in the EIS.

1.6 Recommendation

HCN recommends that an independent review be conducted on the modeling produced to predict the air quality impacts of this project.

2. Noise pollution

HCN objects to the project on the grounds that the Noise Impact Assessment (Appendix 7) is based on poor model inputs and has not been adequately peer reviewed.

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[5] Ibid p 30
[6] Ibid p 119

The EIS identifies that 21 properties will be impacted by increased noise from the project. This is an unacceptable cumulative increase of noise intrusion and loss of amenity in the region to the north and north-west of Singleton. However, HCN considers that the impacts will be greater than predicted.

The model developed for predicting noise impacts uses the same data period and source as the air quality model, September 2011 to August 2012 from Sentinex 8 and 13 met stations.[7] HCN considers this is an inadequate dataset to be predicting noise impacts for a 21 year project.

The predicted noise levels have not had the low frequency modifying factors applied.

2.1 Temperature Inversions

The discussion of model inputs for temperature inversions and drainage flow in Appendix 7 appears to be misleading.

Appendix F discusses the two approaches for the assessment of meteorological effects, one is to use the default conditions outlined in the INP, the other is to use local data.[8] The assessment claims to use the latter approach.

However, while various tables record collated meteorological data for the September 2011 to August 2012 period, the conclusion has been to adopt the moderate F Class Stability Conditions for the model when there have been higher impact G Class Stability Conditions recorded.[9]

The assessment appears to adopt the INP default position while ignoring the greater level temperature inversions recorded on the site.

This approach has ignored the possible sleep disturbance factor caused by the Class G temperature inversion strength.

2.2 Low Frequency Noise Modifying Factors

HCN does not support the approach taken in the EIS for assessing predicted noise levels in relation to low frequency noise (LNF) impacts.

When the INP criteria are applied, the assessment indicates that at least 30 properties will be impacted by LNF that exceeds the 15 dB difference between C-weighted and A-weighted noise levels.

The low frequency modifying factor required by the EPA is identified in Tables 1 to Tables 3.[10] These demonstrate that the properties listed will be impacted by noise levels greater than the

[7] Umwelt 2014 *Noise Impact Assessment* Appendix 7 p5.8
[8] Ibid Appendix F p1
[9] Ibid

project specific noise levels (PSNL). There is some confusion between Table 2 and Table 3, both being an assessment of Year 5 Night Time predicted INP Low Frequency Modifying Factors.

However, the low frequency modifying factors have not been applied to the predicted noise levels[11] because the proponent has used the Broner 2011 and DP&I 2013 recommended night time threshold of 60 dB (C) for low frequency assessment.

HCN does not support this approach because it is counter to the current INP. Also, the 60 dB (C) level of LNF has not been considered or monitored in terms of long term health effects on receivers.

The predicted noise levels are due only to the project and do not take into account the total noise at the site as required by the INP.

There is no consideration of cumulative LNF impacts from other neighbouring mines. The noise predictions are based purely on PSNL. This is an unsatisfactory assessment of the noise impacts on surrounding properties.

HCN is concerned that the health impacts of LNF are not assessed and that the noise assessment has not applied the low frequency modifying factor as required by the INP.

2.3 Cumulative Impact Assessment

The discussion of measuring and predicting cumulative noise impact identifies that '*Cumulative noise impact assessment based on published noise emission limits or predicted noise impacts extrapolated from modeling and monitoring results do not account for actual operational variability or the staged modeling of the operational scenarios considered by the proponent, meteorological conditions and inconsistencies in the data format or differences in monitoring locations.'*[12]

The EIS identifies that a large-scale regional noise model would be the preferred method for assessing cumulative noise impact. However, the complexity of the varied ownership of industrial/mining activities in the region is considered to make this option impractical.[13]

HCN considers this is further demonstration that the community has to carry the burden of increased cumulative impacts from expanding mining activities in an environment that is not effectively measured or monitored.

The modeling for the project indicates that cumulative noise impact for the Camberwell village is '*anticipated to increase'*.[14]

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[10] Ibid Appendix J pp 4,5
[11] Ibid p9.2
[12] Ibid p7.2
[13] Ibid
[14] Ibid p 7.3

2.4 Incorrect conclusions of noise impacts on properties

The conclusion that predicted noise levels exceeding the PSNL will not cause increased sleep disturbance or exceed amenity criteria[15] is not supported. HCN considers that noise impacts from the project will impact on a greater number of residences than predicted.

The conclusion that only 3 private properties will have impacts above 5dBA and therefore be identified for voluntary acquisition rights in an affectation zone is not supported.

The conclusion that only 8 properties will be impacted by noise increases between 2dBA and 5 dBA and therefore be identified for mitigation rights is not supported.

The conclusion that only 10 properties will be impacted by up to and including 2 dBA and therefore be within an identified management zone is not supported

The application of the INP criteria for the low frequency modifying factor indicates that 30 properties will experience an increase in noise levels of 5dBA above the predicted noise level from the project. This is a far greater impact than expressed in the EIS.

2.5 Peer Review

The peer review of the noise impact assessment conducted by SLR Consulting (Appendix K) has not reviewed the adequacy of the model inputs nor has it analysed the resulting predictions or conclusions on noise impact associated with the project.

HCN considers this to be a critical requirement for reviewing the adequacy of predicted noise impacts.

Community health and property values are continuing to be severely compromised within the Hunter region because of the application of poor noise impact predictions within the approval conditions for large scale open cut mining operations.

2.6 Recommendation

HCN recommends that an independent review be conducted on the modeling produced to predict the noise impacts of this project and that a large scale regional noise model be developed to assess cumulative noise.

3. Blasting impacts

There is no assessment of the cumulative impact of blasts from open cut mining operations across the Hunter region. The cumulative level of nitrous oxides emitted from all mine blasts in the region has not been established in the air quality assessment.

[15] Ibid p 9.4

The cumulative impact of noise, vibration and dust emissions from blasting activities across the mines in the area is not clearly assessed.

The EIS blast assessment in Appendix 8 identifies that blasting impacts on the Integra longwall operations will require personnel to be withdrawn through impacts from the North Pit Continuation and the RERR Mining Areas. The economic impact of these stoppages and the regularity of them have not been discussed or assessed.

Current conditions of consent provide for up to 2 blasts per day. There is no discussion of the number of blasts approved per day in adjacent mining operations.

The assessment identifies that there are limitations in the air vibration model because of the exclusion of stemming column height, topographical features, blast confinement and weather conditions are not included in the model.[16]

HCN considers that the cumulative impact of blasting on the region is not adequately assessed or considered in the planning process for new and extended open cut mining operations in the Hunter region.

4. Area of mine owned land

Figure 1.6 (Main Report p5) demonstrates that a very large area of land is owned by mining companies in the vicinity of the Mt Owen Complex. This indicates a significant cumulative social impact in the region over time as farming families have been displaced off their land due to the impacts of open cut mining operations.

The predictions in the EIS indicate that further impacts on private landholders, particularly to the east of the project will occur if the project is approved. This will impact on the community of Middle Falbrook.

There is no discussion in the air quality and noise impact assessments whether mine-owned residences have tenants in them. The predictions are that mine-owned residences are likely to experience higher dust and noise impacts than surrounding private properties. There are a large number of mine-owned properties in the Middle Falbrook area that appear to have residents. (Fig 1.6)

The Land and Environment Court judgement on the Warkworth Mine approval considered that tenants in mine-owned properties should have the same rights as private property owners for protection of health.

The Social Impact Assessment, Appendix 5, does not adequately address the issue of health impacts and ongoing displacement of private land owners in the region. This is a significant issue

[16] Umwelt 2014 *Blast Impact Assessment* Appendix 8 p22

for the Hunter. The emphasis on benefits to the Singleton and Maitland community from the mine demonstrates a lack of appreciation of the social impacts caused through displacement of families and farming enterprises close to mining operations.

The EIS does not identify what will happen to mine owned-land once mine closure has been achieved. The issue of social fabric in rural communities is ignored in the current planning process.

5. Integrity of creek and groundwater systems

HCN does not support the EIS findings that impacts on Glennies Creek, Main Creek, Bowmans Creek and associated ground water systems will be negligible.

HCN notes that the Commonwealth has called in the proposal as a controlled action under Sections 24D and 24E of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) because it is likely to have a significant impact on a water resource.

The expected drawdown in alluvial aquifers exceeds the minimal impact criteria under the NSW Aquifer Interference policy, requiring detailed assessment[17]

5.1 Reduction in catchment area

The proposal will impact on the catchment areas providing surface flows to Bowman's Creek, Swamp Creek, Betty's Creek, Glennies Creek and Bowman's Creek. The reduction in catchment area and flows to ephemeral creeks has not been assessed in relation to the cumulative impacts of mining operations in the area.

The loss of flows to ephemeral creeks will increase the variation in flows by extending the period of time of little or no flow. This has not been assessed. HCN does not support the conclusion that this will have negligible impact on the ecology of the water sources. Climate change impacts on rainfall have not been included in the assessment.

5.2 Loss of base flows

When loss of surface flow is combined with predicted loss of base flows to the creek systems through drawdown of alluvial aquifers, HCN considers the cumulative impact on the creek systems will be significant.

The loss of base flow to Betty's Creek is predicted to be up to 6 ML/year and loss of base flow to Main Creek is predicted to be up to 15ML/year. This is additional to previous impacts caused by past and present mining operations in the creek catchments.

[17] EIS Vol 1, p 166

5.3 Drawdown of hard rock aquifers

The drawdown in the hard rock aquifer is predicted to be up to 65 metres at the end of mining (2030). The median predicted groundwater inflow into the pits is 510 ML/year. This is not an insignificant impact.

It is significant that the groundwater assessment report identifies the complicating factor of the groundwater impacts from the Integra underground mining operation.[18]

HCN considers that the prediction of cumulative impact on groundwater sources has not been adequately assessed and that the current impact of combined existing mining operations is significant.

A regional assessment of the impacts of mining on surface and groundwater sources in the Hunter region is essential before any expansion of the industry can be considered.

5.4 Groundwater Dependent Ecosystems

The Red Gum community associated with Betty Creek just to the north of the proposed pit expansion is consistent with the 'Hunter Lowlands Red Gum Forest' endangered ecological community (EEC). Being a Forested Wetland and a groundwater dependent ecosystem, according to the EIS, the pit expansion may have adverse impact on the long term viability of this community by lowering adjacent water tables.

This EEC provides core Koala habitat and food sources. There were no targeted Koala surveys conducted in this area during the fauna assessment. However, there are recent records of Koala in and near the project study area.

There needs to be more detailed assessment of impacts on Koala habitat.

The area of impact also contains two other groundwater dependent vegetation communities, Central Hunter Swamp Oak Forest and Hunter Valley River Oak Forest.

HCN does not support the EIS conclusion that impacts on groundwater dependent ecosystems will not occur. This is based on the surmise that impacts on alluvium and base flows to creeks will be negligible. This is a prediction that HCN does not support.

5.5 Final Voids

The project will leave three final voids in the landscape. The area of land to be left as open void does not appear to be provided in the EIS.

[18] Groundwater Impact Assessment p 114

HCN opposes the approval of final voids based on the argument that the backfilling of these areas will impose an economic burden on the project.

HCN considers this planning approach to be a cost shifting exercise onto the environment and the taxpayers of NSW. If the project cannot afford to backfill all the open cut pits then it is not a viable operation.

The EIS does not assess the cumulative impact of final voids in the Hunter landscape. The long term impact of seepage of highly saline water into groundwater systems and base flows to surface water sources is not assessed.

5.6 Cumulative impacts on water sources

The EIS does not assess the project in the context of existing impacts on water sources within and surrounding the Mt Owen Complex. The diversions of Bettys Creek, the discharge of mine water into the creek system, the proposal to divert increased flows in York Creek through the Industrial Dam and the loss of flows through reduced catchment area are considerable impacts on the environmental integrity of the surface water sources in the vicinity of the project.

When combined with the impacts on water sources from surrounding mines, the Hunter River catchment is significantly modified.

HCN does not support the conclusion that impacts from the project will be negligible when placed in the context of existing landscape modification.

5.7 Recommendation

HCN has been calling for a regional study of the cumulative impacts of mining on the integrity of Hunter River system. This is required before an informed decision can be made on the long term impacts of the project on water sources.

6. Inadequacy of proposed biodiversity offsets

HCN considers that the proposed biodiversity offset strategy designed to mitigate the significant biodiversity impacts of the project is highly inadequate. The Mt Owen Mine has destroyed a large remnant of native vegetation on the Hunter Valley floor through past approvals. The cumulative impact of the loss of 257 ha of Ravensworth State Forest and subsequent biodiversity offset areas has not been addressed in the EIS.

6.1 Biodiversity Impact

The project will destroy an important area of mature native vegetation that links the remnant Ravensworth State Forest to habitat to the south. This is a significant wildlife corridor in a section of the Hunter Valley that has been highly modified by open cut mining operations.

The area supports 29 recorded threatened species including four species listed as Matters of National Environmental Significance under the EPBC Act.

The proposal will destroy 136.3ha of EEC.

The removal of this wildlife corridor will have a significant impact on 20 of these threatened species because under Part 5A 2(d) of the NSW *Environment Protection & Assessment Act 1979*, the project:

- Will lead to an area of habitat which is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and
- Will remove, modify, fragment or isolate to the long-term survival of the species, population or ecological community in the locality.
- The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality is high.

6.2 Biodiversity Offset properties

The project aims to provide three separate areas of offsets to mitigate the significant impacts on threatened species. These areas fall well short of providing 'one-on–one' or 'like for like' offsets. There is a shortfall of 80.2 ha of EEC in the proposed offset areas. The reliance on regeneration to provide offset values into the future is unacceptable.

6.2.1 Cross Creek Offset (367 ha)

This area to the north of the New Forest block has been highly modified and consists mainly of isolated paddock trees. The area has been identified in the offset analysis to contain 50 hectares of Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions EEC and 315 ha of Derived Native Grasslands.

HCN considers this offset property to be over rated in the calculation of offset values. Only three threatened species were recorded during fauna surveys of the property in four individual sightings.

6.2.2 Stringybark Creek Corridor (97 ha)

This property is also highly disturbed containing mostly isolated paddock trees and a large infestation of African Olive. The area has been calculated to contain 22 ha of Central Hunter Ironbark-Spotted Gum-Grey Box Forest EEC and 58 ha of Derived Native Grasslands.

HCN considers this offset property to be over rated in the calculation of offset values. Only two records of one threatened woodland bird species were made during fauna surveys of the property.

6.2.3 Esparanga (303 ha)

This area is on the edge of the Sydney Basin bioregion, over 60kms from the Mt Owen Complex and contains vegetation communities that bear little resemblance to those in the proposed disturbance area. There is no 'like for like' representation of the EECs impacted by the project.

6.3 Shortfall in offset outcomes

The Biodiversity Offset Strategy is based on a Tier 3 outcome due to the lack of suitable 'like for like' offsets available in the Hunter Valley. This outcome requires a 2:1 offset ratio for impacted vegetation and threatened species habitat

The proposed offset pack provides less than 1:1 for Central Hunter Ironbark-Spotted Gum-Grey Box Forest EEC, less than 2:1 for Derived Native Grasslands and no offset for Central Hunter Grey Box-Ironbark Woodland EEC.

The loss of habitat and significant impact on 20 threatened fauna species and 2 EECs has not been adequately offset by the proposal.

The reliance on future regeneration and rehabilitation of habitat values will not offset the immediate loss of old growth habitat values, such as tree and log hollows and mature flowering trees, that take centuries to develop.

The significant impact on federally listed endangered species such as the Spotted-tailed Quoll and Swift Parrot through the loss of important foraging and denning habitat will not be offset.

Conclusion

HCN objects to the project because it will cause significant cumulative impact on community health, water sources, endangered species and carbon dioxide emissions.

These impacts have not been adequately assessed or mitigated.

The project will shift long term environmental and social costs onto the taxpayers of NSW.

HCN recommends that the project not be approved.

B. Smiles

Bev Smiles

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