

Comparison of the mitigation measures set out in the draft risk treatment plans (RTPs) and the updated Mitigation Register

Airborne and Deposited Dust Risk Treatment Plan

| Identifier | Risk controls set out in the draft RTPs (Tabled Documents 199 – 202) ¹ | EES Attachment H Mitigation Register | Comment | Updated Mitigation Register (Tabled Document 505) ² | Kalbar further response to reconcile mitigations in the draft RTPs and Tabled Document 505 |
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| Air quality | | | | | |
| AQ01 | Areas will be cleared in a staged manner only as required to reduce dust generation by minimising the area of exposed ground surfaces at any one time. | Areas will be cleared in a staged manner, and only as required, to reduce dust generation by minimising the area of exposed ground at any one time. | Same in substance | | |
| AQ02 | Water or appropriate suppressants will be applied to working surfaces, stockpiles, haul roads, the mine voids and other areas as required to minimise dust generation. | Water or appropriate suppressants will be applied to working surfaces, stockpiles, haul roads and other areas where rehabilitation is not yet practical, to minimise dust generation, and in particular, during drier months. | Same in substance | | |
| AQ03 | Drop heights for topsoil and overburden during creation of stockpiles will be minimised as far as practicable to reduce dust generation. | Drop heights for topsoil and overburden will be minimised as far as practicable to reduce dust generation. | Very similar, save for EES version applies to all drop heights, whereas RTP limited to during creation of stockpiles. EES version preferred. | | No change needed, consolidated mitigations supersede the draft RTP. |

¹ The mitigation measures set out in the draft risk treatment plans are primarily contained in Table 7-1 of each plan, noting that the water risk treatment plan also contains mitigation measures in Table 7-2.

² Note that the mark ups shown in this column reflect the mark ups shown in Tabled Document 505. If there is nothing set out, it means that there is no change proposed to the mitigation measure set out in EES Attachment H.

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| AQ04 | Speed limits will be implemented and enforced on unsealed project roads to minimise dust generation | Speed limits will be implemented and enforced on unsealed project roads to minimise dust generation. | Same | Speed limits of 20 km/hr in the event of dusty conditions and 50 km/hr under normal conditions will be implemented and enforced on unsealed project roads to minimise dust generation. [evidence statement of Simon Welchman. [67], TN13 Item 99] . | |
| AQ05 | Topsoil stripping will be planned and conducted in consideration of forecast and actual weather conditions to minimise dust generation | Topsoil stripping will be planned and conducted taking into account forecast and actual weather conditions to minimise dust generation. | Same in substance | | |
| AQ06 | - | Public roads and new intersections will be constructed to standards used by the East Gippsland Shire Council to reduce generation of excess dust (Infrastructure Design Association, 2015) ³ . | Missing in RTP | | No change needed, consolidated mitigations supersede the draft RTP. |
| AQ07 | The mine void will be progressively backfilled and rehabilitated to minimise the | The mine void will be progressively backfilled and rehabilitated to reduce generation of dust by minimising | Similar, however the RTP version has the more limited purpose (relating only to | | No change needed, consolidated mitigations supersede the draft RTP. |

³ Infrastructure Design Association. 2015. Infrastructure Design Manual, Version 4.4.2. Local Government Infrastructure Design Association. 14 October 2015. Tongala, Victoria.

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| | area required for topsoil and overburden stockpiles | the area of exposed soil, including for topsoil and overburden stockpiles. | stockpiles). EES version broader and preferred. | | |
| AQ08 | Haul vehicles will travel on designated haul roads only and haul routes will be minimised where possible. Haulage of product will be limited to daytime hours only (11hours a day) | Haul vehicles will travel on designated haul roads only and haul route lengths will be minimised where practicable. | Similar, except for the requirement that product haulage is limited to daytime hours in the RTP version. | | Update as per RTP version: <i>“Haul vehicles will travel on designated haul roads only and haul routes will be minimised where possible. Haulage of product will be limited to daytime hours only (11hours a day)”</i> |
| AQ09 | Suppressants and water will be applied to exposed areas and stockpiles, where rehabilitation is not yet practical, to reduce potential for dust generation. In particular, during drier months when less rainfall is expected | - | AQ09 (RTP) very similar to AQ02 (EES) which provides: “Water or appropriate suppressants will be applied to working surfaces, stockpiles, haul roads and other areas where rehabilitation is not yet practical, to minimise dust generation, and in particular, during drier months.” The text in the RTP version <i>“In particular, during drier months when less rainfall is expected”</i> is a comment rather than a mitigation per se and unnecessary to include. Accordingly, no changes are needed to the consolidated mitigation register. | | |

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| AQ10 | Ore will be transferred across the project area as a slurry to reduce potential for dust emission | Ore will be transferred through a pipeline across the project area as a slurry to reduce potential for dust emissions. | Same in substance | | |
| AQ11 | Ore will be processed as a slurry. | Ore will be processed as a slurry to reduce potential for dust emissions. | Same in substance | | |
| AQ12 | There will be no crushing or grinding of ore, preventing the potential generation of respirable crystalline silica emissions | No crushing or grinding of ore will occur to prevent the potential for emissions of respirable crystalline silica. | Same in substance | | |
| AQ13 | When real-time monitoring indicates that trigger level near key sensitive receptors have been reached, dust generating activities will be ceased at certain times, suspended, slowed or moved to other parts of the mine. This should be done in order of preference as outlined in the trigger action response plan of the AQMP. | Certain activities, such as overburden excavation and transport of overburden and product, will be ceased when real-time air quality monitoring indicates that air quality trigger levels have been reached near key sensitive receptors. | Same in substance | Certain activities, such as overburden excavation and transport of overburden and product, will be ceased, slowed or relocated (as necessary) when real-time air quality monitoring indicates that air quality trigger levels have been reached near key sensitive receptors. | |
| AQ14 | Ground-disturbing activities (including cessation of night time operations) and materials handling will be scheduled to avoid excessive dust emissions during forecast adverse weather | Certain activities, such as overburden excavation and transport of overburden and product, will be scheduled to avoid excessive dust emissions during forecast adverse weather | Similar in substance, however both versions somewhat lacking in clarity. | | Update as follows for clarity: <i>“High dust generating activities, will be scheduled to avoid excessive dust emissions during</i> |

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| | conditions or at certain time within the mining footprint. | conditions (principally high winds). | | | <i>forecast adverse weather conditions.”</i> |
| AQ15 | Additional mitigation measures will be implemented and monitored through the proposed environmental management framework. In particular, the development of an air quality risk treatment plan. | Dust generation will be managed in accordance with the air quality sub-plan. | The RTP version includes the idea of developing further mitigations through the preparation of a final RTP. This approach is supported. | | Update as per RTP version, but redraft as follows for clarity: <i>“The option of identifying additional mitigations will be considered when preparing a final proposed Air Risk Treatment Plan submitted for approval as part of a Work Plan. Any further mitigations arising out of this work which minimise impacts and which are reasonably practicable will be adopted.”</i> |
| AQ16 | Construction of the wear course of internal haul roads will use an optimal size grading of aggregate with road stabilisation and compaction agents. | Dust generation from haul roads will be controlled by applying water or chemical suppressants, cessation of haulage during adverse weather conditions, and as required in response to real-time air quality monitoring. | These are different mitigations, however AQ16 (RTP) is the same in substance as AQ17 (EES). Further, AQ16 (EES) is already covered by AQ02 (EES) and AQ13 (EES). Accordingly, no further updates are needed. All content is captured. | | |
| AQ17 | A commitment to conduct continuous visual observation monitoring (e.g. video monitoring) of high dust | Construction of internal haul roads will use an optimal size grading of aggregate with road | AQ17 (RTP) missing in EES version. | | Add new mitigation to consolidated mitigations as per AQ17 (RTP), and modify as |

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| | generation activities if such technology is found to be economically viable. | stabilisation and compaction agents. | | | follows (accepting EGSC's submission on this point): <i>"A commitment to conduct continuous visual observation monitoring (e.g. video monitoring) of high dust generation activities if such technology is found to be economically viable."</i> |
| AQ18 | | Plant, machinery and vehicles will be maintained regularly in accordance with manufactures' specifications to minimise emission of particulates. | Missing in RTP but no changed needed because consolidated mitigations supersede RTP. | | |
| AQ19 | | A principal contact person to whom community queries and complaints will be directed will be identified for the project. The complaints response procedure will be implemented to address any complaints received. Twenty-four-hour contact details for the principal contact person will be provided through letters and signage onsite. | Missing in RTP but no changed needed because consolidated mitigations supersede RTP. | | |
| AQ20 | | Activities will be restricted, as required, on days when modelling predicts exceedances of air quality criteria at one or | Missing in RTP but no changed needed because consolidated mitigations supersede RTP. | | |

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| | | <p>more sensitive receptors. Activities to be restricted will include overburden extraction and haulage, ore extraction and grading of roads. Restrictions will be applied to these activities conducted across the whole or part of the project area where required to achieve compliance with air quality criteria.</p> | | | |
| AQ21 | | | | <p>Apply dust reduction measures to achieve the PM₁₀ objective in the Environment Reference Standards (Part 2 – Ambient Air) of 50 µg/m³ (24 hour average), including use of truck and shovel to extract overburden instead of scrapers and limiting grading, product haul and overburden extraction hours per day, particularly limiting to daytime hours where dispersion potential is greater than at night</p> <p>[expert witness statement of Simon Welchman, sections 4.1-4.2; TN13, Item 96;</p> <p>note that PM_{2.5} was already predicted to comply with the</p> | |

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| | | | | <p>Environment Reference Standard objective of 25µg/m3, so was not the subject of these additional mitigations in section 4.1-4.2 of Mr Welchman's evidence].</p> | |
| <p>AQ22</p> | | | | <p>Corrective actions must be implemented, and authorities notified, if rainwater monitoring at surrounding properties (carried out in accordance with EMF Chapter 12, Table 12.9 – baseline and operational) exceeds Australian Drinking Water Guideline limits). [expert evidence of Simon Welchman, [71], TN13 Item 102. See also Airborne and Deposited Dust Risk Treatment Plan, Table 9-1, Item 6]</p> | |
| <p>=</p> | | | | <p>[East Gippsland Shire Council's request for implementation of "best practice" across the board (as per cross examination of Mr Welchman and [237] and its Part B submission) is noted. This not opposed in principle, but need / utility queried, given 'best practice' a requirement under the PEM and SEPP AQM, but</p> | |

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| | | | | presumably to be overtaken / subsumed within general environmental duty and principles under the Environment Protection Act 2017 | |
| GHG01 | Solar photovoltaic technology will be used to supplement electricity requirements for applications such as lighting. | Where practical, solar photovoltaic technology will be used to supplement electricity requirements for applications such as lighting. | It is appropriate to include the words 'where practicable' as per GHG01 (EES) No change needed, consolidated mitigations supersede the draft RTP. | | |
| GHG02 | Energy efficient technology will be used where practicable, including low energy lighting (e.g., LEDs). | Energy efficient technology will be used where practicable, including low energy lighting (e.g., LEDs). | Same | | |
| GHG03 | The power factor of mains electricity will be improved by reducing the phase difference between the voltage and the current. The on-site power factor correction will be optimised for grid electricity usage | Electricity usage will be conducted in accordance with the power factor limits specified in Table 2 of the Victorian Electricity Distribution Code. | Same purpose, however GHG03 (RTP) more appropriately drafted. | | Update as per GHG03 (RTP): <i>"The power factor of mains electricity will be improved by reducing the phase difference between the voltage and the current. The on-site power factor correction will be optimised for grid electricity usage."</i> |
| GHG04 | Vehicle diesel consumption will be reduced through equipment selection, load and route optimisation and production | Vehicle diesel consumption will be reduced where practicable through equipment selection, load and route optimisation and | It is appropriate to include the words 'where practicable' as per GHG04 (EES) | | |

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| | scheduling, and minimising idle time. | production scheduling, and minimising idle time. | | | |
| GHG05 | Fuel-burning equipment will be maintained and operated according to manufacturer/supplier guidelines and recommendations. | Equipment will be maintained and operated according to manufacturer/supplier guidelines and recommendations. | Similar in substance but broader condition EES version to be preferred. | | |
| GHG06 | Generator diesel consumption will be reduced through selecting a flexible configuration that allows for electricity output to be adjusted in line with demand. | Generator diesel consumption will be reduced by selecting a flexible configuration that allows for electricity output to be adjusted in line with demand. | Same in substance | | |
| GHG07 | - | The amount of land clearance will be minimised as far as practicable to reduce greenhouse gas emissions. | Missing in RTP | | |
| GHG08 | - | Kalbar will regularly consider and implement new greenhouse gas mitigation opportunities and/or technologies, where practicable. | Missing in RTP | | |
| GHG09 | - | Energy efficiency principles will be integrated in building and facility design. | Missing in RTP | | |
| GHG10 | - | Materials and equipment will be sourced locally wherever | Missing in RTP | | |

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| | | feasible to minimise fuel use for transportation. | | | |
| GHG11 | - | - | Missing in RTP and in EES version | Kalbar will comply with the commitments set out in the document titled 'Kalbar commitment to Carbon Reduction at the Fingerboards Project'. | |
| RD09a | Engineering controls, such as ventilation, dust control, and appropriate machinery shielding will be provided where required. | Radiation exposure to personnel will be minimised through: <ul style="list-style-type: none"> • Engineering controls, such as ventilation, dust control, and appropriate machinery shielding. [other aspects of RD09 not relevant to the RTP] | Same in substance | | |