5.3 Responses to Submissions

The Submission Analysis Register located in **Appendix A1** details where issues raised in submissions were required by the Coordinator-General to be responded to in the AEIS. Instances where a direct response to a submission item was requested for the AEIS, the appropriate reference has been provided in the column titled "Relevant AEIS Reference".

For privacy purposes, the names of private submitters are not included in **Appendix A1**. Private submitters have been advised by the Office of the Coordinator-General as to which submission number accords with their comments.

5.3.1 Private Submitter 5

5.3.1.1 Issue 1

The potential groundwater impacts of the revised Project were presented in **Chapter 6** of the draft EIS. Subsequent to the release of the draft EIS, a revised groundwater model has been prepared. For further information regarding this matter refer to **Section 5.1.5** of the AEIS.

NAC will ensure its groundwater monitoring regime is adequate to identify possible effects to neighbouring groundwater users from the revised Project's operations. NAC will review its groundwater monitoring regime on a regular basis in line with the progression of mining over the life of the revised Project.

Mitigation measures will be put into place should the effects of dewatering affect existing users. Examples of mitigation include installation of new pumps, deepening of existing bores, installation of a new bore at another location on the property, or provision of an alternative supply of water.

NAC will undertake further comprehensive bore characterisation surveys for third party groundwater users in the predicted impact area to identify the exact requirements for 'Make Good Provisions' for those affected users. NAC commit to entering into landholder agreements with potentially affected landholders. The options for groundwater mitigation will be detailed in the landholder agreements and may include, but not limited to, the installation of a new pump within the impacted bore, the lowering of the existing pump within the impacted bore, the deepening of the impacted bore or the construction of a new bore in the same aquifer at another location on the property.

NAC has commenced meetings with the potentially affected landholders and intends to reach agreement as soon as practical and in an amicable and fair manner. In relation to this matter, NAC will ensure that it has reached legal agreement with all potentially affected landholders prior to the commencement of the revised Project.

5.3.1.2 Issue 2

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;

- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit. Those neighbours are considerably closer to the proposed mining areas than the submitter.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10** of the draft EIS.

5.3.1.3 Issue 3

NAC has proposed a comprehensive Noise and Vibration Management Plan in **Appendix J.11** of the draft EIS to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project, including the residence of the submitter.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's draft EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's draft EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in

a timely manner to assist the resolution process. For further information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.1.4 Issue 4

Please refer to **Section 5.1.6** of the AEIS for information relating to this issue.

5.3.1.5 Issue 5

NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality, noise or groundwater impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate a landholder agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

In relation to impacts on property values, NAC believes this issue is outside the scope of the EIS due to the range of external non-project related factors that may influence property prices. In general, NAC is aware from previous discussions with a local Real Estate Agent that property prices are not normally negatively impacted by the presence of the Mine. However, local property sales may take longer to complete.

If potential impacts cannot be adequately managed, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

5.3.2 Private Submitter 16

5.3.2.1 Issue 1

NAC commits to proactively consulting with the Private Submitter on proposed plans for the realignment of Jondaryan – Muldu Road. NAC will ensure that access to Lot 20 and Lot 21 is maintained, or that impacts to access is minimised as per agreement with the Private Submitter. This includes the Private Submitter's request to keep the realignment as closet to the junction of Cookes Road and Jondaryan – Muldu Road. For further information regarding this matter refer to **Sections 5.1.6** and **5.1.10** of the AEIS.

5.3.2.2 Issue 2

NAC commits to proactively consulting with the Private Submitter on proposed plans for the rail spur that passes through land owned by the submitter, including Lots 13 and 14 on RP3467. An agreement will be developed and executed between NAC and the Private Submitter. For further information regarding this matter refer to **Sections 5.1.6** and **5.1.10** of the AEIS.

5.3.2.3 Issue 3

NAC commits to proactively consulting with the Private Submitter on proposed plans for the realignment of Jondaryan – Muldu Road. NAC will ensure that impact to Lot 3444 is minimised, or that

impacts are limited as per agreement with the Private Submitter. For further information regarding this matter refer to **Sections 5.1.6** and **5.1.10** of the AEIS.

5.3.3 Private Submitter 17

5.3.3.1 Issue 1

NAC has proposed a comprehensive Noise and Vibration Management Plan in **Appendix J.11** of the draft EIS to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project, including the residence of the Private Submitter.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process.

The Private Submitter's suggestion to plant a tree screen along the western edge of Lot 3445 will be implemented in consultation with the landholder.

5.3.3.2 Issue 2

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in the Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

5.3.3.3 Issue 3

NAC commits to proactively consulting with the Private Submitter on proposed plans for the realignment of Jondaryan – Muldu Road. NAC will ensure that access to Lot 3446 and Lot 3306 is maintained, or that impacts to access is minimised as per agreement with the Private Submitter. NAC has commenced discussions with the Private Submitter in relation to this matter.

For further information regarding this matter, please refer to **Section 5.1.6, Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.4 Private Submitter 18

5.3.4.1 Issue 1

The small patch of remnant vegetation on Lot 3448 that the submitter has described is a Brigalow / Belah community. Remnant vegetation has been considered, and where possible, avoided during the planning stages of the revised Project. This does include Brigalow communities, which were avoided when designing the proposed rail loop.

The community referenced by the Private Submitter is however in the middle of the proposed mining areas and so it is not practical to retain it. Appropriate vegetation offsets have or will be secured to satisfy the requirements of the State and Federal government offset policies respectively. For further information regarding this matter refer to **Appendix M** of AEIS.

5.3.5 Private Submitter 41

5.3.5.1 Issue 1

As stated in **Section 3.3.2** of the draft EIS, the JRLF will be decommissioned and a new TLF will be constructed on MLA 50232 approximately 8 km from the JRLF site. The decommissioning of the JRLF is expected to reduce the potential for noise and dust impacts in Jondaryan.

As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the

new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

Noise and dust emissions from the existing JRLF will continue to be monitored in accordance with the EA for the facility.

For further information regarding this matter refer to **Section 5.1.4** and **Section 5.1.10** of the AEIS.

5.3.5.2 Issue 2

As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

Based on the current schedule of works, it is not expected that the TLF and the JRLF will be in joint operation.

NAC understands that the current use of the JRLF (as part of the Mine) has galvanised concerns within the township of Jondaryan. Therefore, NAC has undertaken a number of mitigation measures at the JRLF to reduce the potential of adverse air quality and noise impacts from coal loading operations on the residents of Jondaryan and its surroundings.

The current general dust mitigation measures for JRLF include:

- construction of a new domestic product coal pad further away from the township of Jondaryan (i.e. as a high movement pad);
- all trucks entering and leaving the facility are covered to prevent dust emission;
- a water cart is employed on a constant basis to suppress dust on haul roads;
- the speed limit is restricted to less than 30 km/hr onsite;
- controlling the level and direction of traffic movements, including minimising turning requirements for truck traffic, to reduce fugitive dust generation from traffic movements;
- grading surfaces regularly to reduce silt content;
- maintaining a rumble strip to minimise track-out from site to public roads;
- sweeping of public access roads to reduce soiling due to track-out;
- the height of the stockpiles has been reduced to minimise the volume of fugitive dust generation;
- the watering of coal stockpiles and the surrounding access roads will continue on a regular basis;
- where possible, access roads have been sealed with bitumen; and
- the current size of the coal stockpiles at JRLF will not be increased above current heights.

For further information regarding this matter, please refer to **Section 5.1.4** of the AEIS.

5.3.5.3 Issue 3

NAC has publicly displayed air quality monitoring results in Jondaryan at the Caltex Road House since 2011, in agreement with the Jondaryan District Residents Association. These results are now also available online: http://www.aclandproject.com.au/content/sustainability.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

Historical environmental monitoring results for TSP show that JRLF identified one event of an elevated result in the period January 2012 to December 2013. The elevated result was due to unregulated temperature in the TEOM unit and was not considered accurate.

NAC will continue to periodically review the effectiveness of the JRLF's impact mitigation measures, further investigate practical mitigation measures and seek expert air quality advice as required. NAC continue to regularly consult with the local Jondaryan community to resolve as legitimate complaints. In addition, it is important to note that NAC must maintain compliance with the strict legal operational limits of the JRLF's EA whilst still in operation to avoid regulatory action by the DEHP.

5.3.6 Private Submitter 55

5.3.6.1 Issue 1

NAC has proposed a comprehensive Noise and Vibration Management Plan in **Appendix J.11** of the draft EIS to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project, including the residence of the Private Submitter.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process.

The Private Submitter's suggestion to plant a tree screen along the western edge of Lot 3445 will be implemented in consultation with the landholder.

5.3.6.2 Issue 2

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised

Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **EIS Appendix J.10**.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10** of the draft EIS and **Section 5.1.9** of the AEIS.

5.3.7 Private Submitter 139

5.3.7.1 Issue 1

NAC will advise the DEHP in a timely manner of all non-compliances identified in relation to the revised Project's future EA (e.g. 'exception reporting').

If a definite case where material or serious environmental harm or the potential for material or serious environmental harm is clearly established by an air quality investigation into an unforeseen impact, NAC will ensure the notification requirements of Section 320 of the EP Act are fully addressed.

NAC envisage that it will also be bound to report all environmental incidents as a requirement of its future EA for the Project (i.e. based on the same requirement for the Mine).

NAC currently prepares monthly environmental monitoring reports for Jondaryan and makes these available to the public through the NHG website. NAC will continue to prepare the monthly environmental monitoring reports and make these available to the public.

For further information regarding this matter refer to **Section 5.1.3** and **Section 5.1.10** of the AEIS.

5.3.7.2 Issue 2

NAC believes that for dust issues at the Mine, the health and safety risk is low. NAC proactively monitors dust nuisance and PM_{10} particulates which is a health-based parameter. To date, for the existing operations NAC has remained compliant in relation to PM_{10} particulates. NAC also conducts periodic personal monitoring for occupation health and safety purposes including annual occupational health and safety assessments to determine the status of air quality in the working environment, as required under the *Coal Mining Safety and Health Act 1999* (QCMSHA).

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.3 Issue 3

As discussed in **Section 9.4.5** of the draft EIS and **Section 5.3.45.1** of the AEIS, in April 2013, NAC upgraded the JRLF to include a coal veneering system to minimise dust emissions from coal wagons. NAC will continue to periodically review the effectiveness of the JRLF's impact mitigation measures, further investigate practical mitigation measures and seek expert air quality advice as required. NAC continue to regularly consult with the local Jondaryan community to resolve legitimate complaints. In addition, it is important to note that NAC must maintain compliance with the strict legal operational limits of the JRLF's EA whilst still in operation to avoid regulatory action by the DEHP.

NAC proposes to construct a new TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering system. The new TLF will also include a veneering system. The TLF's design expects to reduce potential coal dust emissions further, for example, through the use of a hopper feed to create 'garden bed' type coal profiles within the rail wagons and the elimination of the use of mobile equipment, such as front-end loaders and dozers.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.4 Issue 4

The type of coal train engines is a decision that belongs to the supplier, Aurizon.

An emissions inventory for $PM_{2.5}$, CO, NO_2 and SO_2 from locomotives on the rail spur and balloon loop is presented in **Section 9.4.2** of the draft EIS. The quantities of exhaust emissions are relatively low and are not expected to exceed the ambient air quality goals. This conclusion is supported by roadside monitoring in Queensland (EPA, 2001). The proposed new TLF will have improved loading facilities ensuring less idle time for trains.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.5 Issue 5

In relation to the efficacy of the use of wagon lids, Connell Hatch as part of its work completed for the Queensland Rail Environmental Evaluation conducted an analysis of the feasibility, practicability and cost-effectiveness of either retrofitting wagon lids to the existing rail fleet or redesigning rail wagons to incorporate a lid across the central Queensland coal network. Connell Hatch reported that wagon lids are used in the transport of some materials in northern Queensland and in the transport of coal in North America where very cold conditions, snow and ice can adversely affect the coal (QRC 2013).

While Connell Hatch found that wagon lids are likely to substantially reduce coal dust emissions from wagons, it was acknowledged that there were many potential adverse operational impacts and costs associated with implementing wagon lids that cannot be estimated without a thorough detailed investigation. The major disadvantages of introducing wagon lids include:

- large operating cost (retrofitting only);
- modifications to all loading and unloading facilities (i.e. in terms of time, practicality and cost); and
- ramifications of lid failure (QRC 2013).

The preliminary work presented in the environmental evaluation suggests that wagon lids are unlikely to be a feasible solution in the short term (QRC 2013).

In addition, in response to a number of public complaints, during September 2012 the Queensland government undertook air quality monitoring along the South West Rail System (http://www.ehp.qld.gov.au/air/pdf/tennyson-dust-report.pdf). Further comprehensive monitoring was undertaken by the Queensland government during March and April 2013 and then again during May 2013 at six locations along the South West Rail System , which included Oakey, Willowburn (Toowoomba), Dinmore, Tennyson, Fairfield and Coorparoo. As part of the same study, one background location (Chelmer) on a section of the Metropolitan rail system not used by coal trains was also included. The two-stage monitoring program during 2013 was to assess air quality without and then with veneering of coal in rail wagons from the JRLF.

The Queensland government monitoring programs independently demonstrated that ambient PM_{10} and $PM_{2.5}$ concentrations did not exceed the EPP (Air) 24-hour average air quality objectives of 50 µg/m^3 and 25 µg/m^3 respectively on any day. The final reports for this targeted air quality monitoring are provided at https://www.ehp.qld.gov.au/management/coal-dust/monitoring.html.

Furthermore, subsequent continuous real-time air quality monitoring set-up by the Queensland government along the South West Rail System continues to show that no significant coal dust issues currently exist in relation to coal transport. This data may be viewed at https://www.ehp.qld.gov.au/air/data/search.php.

Therefore, NAC believes the Private Submitter's suggested solution of covering coal wagons is currently not a viable solution based on the associated disadvantages and the fact there is no evidence from independent air quality of a significant impact along the South West Rail System. In addition, NAC believes using current scientific evidence that the cumulative dust impacts associated with the operation of the revised Project and its associated coal transport are unlikely to significantly affect the local or regional airshed.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.6 Issue 6

NAC currently prepares monthly environmental monitoring reports for Jondaryan and makes these available to the public through the NHG website. NAC will continue to prepare the monthly environmental monitoring reports and make these available to the public.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.7 Issue 7

In developing the revised Project, NAC have assessed all economic, social and environmental aspects, including potential noise and dust impacts to the receiving environment and nearby residents. An example is the Manning Vale East Pit, which will have reduced operating hours including reduced operations or cessation of operations when noise is predicted to impact sensitive receptors.

Reducing the hours of operation for the coal transport is not proposed as noise and air quality emissions from this activity are not expected to exceed regulatory limits.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.8 Issue 8

Rail noise levels from the rail spur are predicted to be well below the Queensland Rail Code of Practice – Railway Noise Management's L_{Amax} 87 dB(A) and $L_{Aeq\ (24hr)}$ 65 dB(A) noise criteria. The proposed new TLF will have improved loading facilities ensuring less idle time for trains.

For further information regarding this matter refer to **Section 11.7.9** of the draft EIS and **Section 5.1.10** of the AEIS.

5.3.7.9 Issue 9

In developing the revised Project, NAC have assessed all economic, social and environmental aspects, including potential noise and dust impacts to the receiving environment and nearby residents. An example is the Manning Vale East Pit, which will have reduced operating hours including reduced operations or cessation of operations when noise is predicted to impact sensitive receptors.

Reducing the hours of operation for the loading operation is not proposed as noise and air quality emissions from this activity are not expected to exceed regulatory limits.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS and **Chapter 11** of the draft EIS.

5.3.7.10 Issue 10

In developing the revised Project, NAC have assessed all economic, social and environmental aspects, including potential noise impacts to the receiving environment and nearby residents. An

example is the Manning Vale East Pit, which will have reduced operating hours including reduced operations or cessation of operations when noise is predicted to impact sensitive receptors.

Reducing the hours of operation on a permanent basis is not proposed as noise emissions are not expected to cause significant impact to nearby residences. NAC will implement the Noise Management Plan as proposed in **Appendix J.11** of the draft EIS.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.11 Issue 11

The revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2 % of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek.

The flooding assessment undertaken in the draft EIS covers Lagoon Creek to Jondaryan. The highest point between Lagoon Creek and Doctors Creek near Jondaryan is 8 m higher than Doctors Creek. Therefore, Lagoon Creek and Doctors Creek are considered to be independent in their flooding regimes and the assessment of flooding in a flood model for Doctors Creek is not considered to be required for the draft EIS.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.7.12 Issue 12

As part of NAC's commitment to community relationships and development, the CRG was established in October 2012 to provide on-going communication with local stakeholders and to address community concerns and opportunities arising from the Mine. NAC works with the community to ensure that the CRG membership is representative of local interests. CRG members ensure that topics discussed are relevant and reflect areas of local community importance.

A key function of the CRG is to advise NAC in creating partnerships through its CIF. CRG members assess applications made through this fund, and provide feedback and recommendations to NAC regarding projects that they believe will have the most benefit for the local community.

The current CRG comprises representatives from a broad cross section of local and regional stakeholder groups. The majority, 9 of the 11 community members, live or work in the communities immediately surrounding the Mine and the remainder reside within the TRC area. The current Chairperson of the CRG is a local landholder and neighbour of the mine. The CRG members include representatives from:

- TRC;
- Local landholder representatives;
- Agforce;
- Health;
- Education;
- Business;
- Emergency Services;
- Environment e.g. Landcare;
- Aboriginal and Torres Strait Islander community;
- Regional communities surrounding the mine, including Jondaryan; and
- NHG.

The matrix of the CRG is developed with input from the CRG and reviewed annually. An application process is conducted every 12 months, and community members are encouraged to apply through advertisements and notifications in the local media and through the Community Information Centre. All applicants to the initial CRG in 2012 were accepted for the twelve month tenure. Community groups are also invited to present to the CRG in relation to local projects, issues or opportunities. CRG membership and meeting minutes are regularly updated on the NAC website: www.newhopegroup.com.au.

For further information regarding this matter refer to **Section 5.1.10**.

5.3.7.13 Issue 13

The current Chairperson of the CRG is a local landholder and neighbour of the Mine.

For further information regarding this matter refer to **Section 5.1.10**.

5.3.7.14 Issue 14

In developing the revised Project, NAC have assessed all economic, social and environmental aspects, including potential noise and dust impacts to the receiving environment and nearby residents. An example is the Manning Vale East Pit, which will have reduced operating hours including reduced operations or cessation of operations when noise is predicted to impact sensitive receptors.

Reducing the hours of operation for the coal transport is not proposed as noise and air quality emissions from this activity are not expected to exceed regulatory limits. For further information on

this matter refer to **Chapter 10** and **Chapter 11** of the draft EIS, and responses to other issues addressed in **Section 5.3.7** of the AEIS.

5.3.7.15 Issue 15

NAC does not have plans to transport coal by road in the event of rail outages. If NAC is required to transport coal by road, appropriate approval from the relevant government bodies would be required and sought.

5.3.7.16 Issue 16

The method of fuel transportation is a decision that belongs to the supplier, which is external to NAC.

5.3.7.17 Issue 17

The length of coal trains is a decision that belongs to the supplier, which is external to NAC.

5.3.7.18 Issue 18

Use of Oakey – Cooyar Road may be suspended for short periods of time over the life of the revised Project during blasting activities. Appropriate traffic control and safety practices will be implemented by NAC. For additional information regarding this matter, please refer to **Chapter 13** of the draft EIS and **Section 5.1.6**, and **5.2.3** of the AEIS.

5.3.7.19 Issue 19

In developing the revised Project, NAC have assessed all economic, social and environmental aspects, including potential visual amenity impacts to the receiving environment and nearby residents. An example is the Manning Vale East Pit, which will have reduced operating hours including reduced operations or cessation of operations when noise is predicted to impact sensitive receptors.

Due to the rural landscape within and surrounding the Study area, night lighting is expected to create a glow in the night sky that will be visible from the surrounding region and nearby residences. However, as the Mine already provides some luminance in the night sky, it is unlikely that the revised Project will substantially increase the existing visual impact of night time glow.

As detailed in **Section 3.3** of the Local Stakeholder Management Plan (**Appendix J.18** of the draft EIS), for issues relating to the operating mine, neighbours have access to senior site personnel via a telephone number which operates 24 hours a day. This 'fast response' approach is designed to ensure access to the NAC employee on site at the time with the necessary responsibility to take immediate actions if required. NAC's Environmental Team will be available for contact during business hours by email (with the email address available through a web-site), and by telephone through the Mine's reception.

A legible record of all concerns will be kept by NAC's Environmental Team, who is responsible for the revised Project's environmental concerns management. Each concern received in relation to the

revised Project will be formally documented and record of the following information is maintained for legal and compliance purposes.

1. The date and time of concern.
2. The nature of concern (e.g. dust).
3. The method by which the concern was received (e.g. telephone).
4. The name and title of the person who receives the concern.
5. The personal details of the complainant, if made available, or if no details were provided, a note to that effect.
6. The action taken in relation to the concern, including any follow-up contact, the outcome of investigations and any required on-going actions.
7. If no action was taken, then the reason why no action was taken.
8. The final status of the concern (e.g. resolved, continuing or unresolved).

NAC will continue to use its 24 hr contact number for near neighbours to allow quick rectification of directional lighting issues from mobile lighting units.

NAC will undertake the necessary measures to ensure lighting efficiency is considered during the installation phase at the revised Project's new infrastructure areas. The minimisation of 'light spillage' towards sensitive receptors will be a priority and will involve mitigation measures such as the use of light shielding, the appropriate selection of equipment (e.g. illumination intensities) and the correct directional placement of lighting structures.

NAC's EA for the revised Project will include conditions to address adverse light impacts from a nuisance perspective.

5.3.7.20 Issue 20

NAC has completed a range of ecological based surveys for the previous project, the Mine and the revised Project, as detailed in **Chapter 7** and **Appendix H** of the draft EIS. **Table 5.3-A** summarises the ecological surveys undertaken to date. As part of the EIS review process, this survey effort has been scrutinised by the applicable Commonwealth and State government agencies and deemed appropriate for the revised Project's EIS.

Table 5.3-A Flora and fauna surveys

Survey date	Purpose
Vegetation and flora surveys	
August 2005	General flora and vegetation survey – record species and vegetation communities
February 2007	Vegetation condition assessment of bluegrass Threatened Ecological Community
February-March 2007	General flora and vegetation survey
February 2011	Vegetation condition assessment of vegetation communities in impact area and offset

Survey date	Purpose
	sites
June 2013	Vegetation condition assessment of vegetation communities in impact area and offset sites
August 2013	Confirmation of regional ecosystems, threatened species survey
Fauna survey	
February- March 2005	Fauna trapping program – spotlighting, anabat recording, Elliot and pit fall trapping
February 2007	Dunmall's snake, five-clawed worm skink and grassland earless dragon survey
March 2013	Koala survey
August 2013	Scoping fauna survey to inform detailed fauna survey to be completed in October/November 2013
October/November 2013	Bird survey for 4 EPBC listed species
November 2013	EPBC reptile and mammal survey

5.3.8 Private Submitter 190

5.3.8.1 Issue 1

NAC do not expect dust levels to exceed regulatory limits at the Private Submitter's place of residence.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10** of the draft EIS.

NAC do not expect noise levels to exceed regulatory limits at the Private Submitter's place of residence.

NAC has proposed a comprehensive Noise and Vibration Management Plan (draft EIS **Appendix J.11**) to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;

- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) $LA_{eq,adj,1\ hr}$ at all noise sensitive receptors over the life of the revised Project, including the residence of the Private Submitter.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process.

NAC has engaged with the Private Submitter in relation to their concerns relating to water supplied by the Wetalla Pipeline.

5.3.9 Private Submitter 193

5.3.9.1 Issue 1

Refer to **Chapter 6** of the AEIS.

5.3.9.2 Issue 2

The implications of the revised Project not proceeding are discussed in **Section 2.3.1** and **Table 2-2** of the draft EIS. Mitigations for potential social, economic and environmental impacts are discussed in each chapter of the draft EIS and form a collective mitigation against the revised Project not being approved. For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.10 Private Submitter 201

5.3.10.1 Issue 1

NAC acknowledges the Private Submitter's concerns and commits to engaging with landholders. For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

NAC remains committed to achieving a fair and amicable outcome for all parties involved.

5.3.10.2 Issue 2

"Biting the land that feeds you…" provides commentary on the draft EIS that was prepared in 2009 for the original proposal, which has since been revised. Economic assessment for the revised Project can be found in **Chapter 17** of the draft EIS. The draft EIS and **Section 5.1.11** of the AEIS both include analysis and discussion on the impacts of the revised Project on agriculture in the local community.

5.3.10.3 Issue 3

Based on thorough modelling, NAC do not expect dust levels to exceed regulatory limits at the Private Submitter's place of residence.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised

Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in the Air Quality Management Plan (refer to Draft EIS **Appendix J.10**).

5.3.10.4 Issue 4

NAC has proposed a comprehensive Noise and Vibration Management Plan (draft EIS **Appendix J.11**) to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and

- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track

dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project, including the residence of the Private Submitter.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process.

5.3.10.5 Issue 5

The bore survey results were provided to the Private Submitter. NAC are not aware of any errors or underestimations of bores on the Private Submitters land. NAC propose a meeting with the Private Submitter to discuss this issue further.

5.3.10.6 Issue 6

The Private Submitter correctly summises that predictive uncertainty is often inherent in groundwater modelling. For further information on this matter refer to **Appendix F** and **Appendix H** of the AEIS.

5.3.10.7 Issue 7

NAC hope to enter into a landholder agreement with the submitter in relation to potential groundwater, noise and dust impacts. The agreement will be legally binding and will set out an agreeable investigation process should bores on the Private Submitter's property incur drawdown. The investigations would be completed by independent specialists and would seek to determine the cause of the drawdown. If the revised Project was responsible for the drawdown, appropriate mitigation of the impacts would be carried out in accordance with the agreement. The agreement will include a "Make good" clause should alternative mitigation options not prove viable.

For further information refer to **Appendix F** and **Appendix H** of the AEIS.

5.3.10.8 Issue 8

NAC hope to enter into a landholder agreement with the submitter in relation to potential groundwater, noise and dust impacts. The agreement will be legally binding and will set out an agreeable investigation process should impacts on the Private Submitter's property occur.

5.3.10.9 Issue 9

As stated in **Section 9.5.7** and other sections of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by environmental impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

In relation to impacts on property values, NAC believes this issue is outside the scope of the EIS due to the range of external non-project related factors that may influence property prices. In general, NAC is aware from previous discussions with a local Real Estate Agent that property prices are not normally negatively impacted by the presence of the Mine. However, local property sales may take longer to complete.

If potential environmental impacts cannot be adequately managed, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements. Refer to **Section 5.3.10.7** and **Section 5.3.10.8** of the AEIS for further information.

5.3.10.10 Issue 10

Refer to **Section 5.3.10.9** of the AEIS.

5.3.10.11 Issue 11

As part of NAC's commitment to community relationships and development, the CRG was established in October 2012 to provide on-going communication with local stakeholders and to address community concerns and opportunities arising from the Mine. NAC works with the community to ensure that the CRG membership is representative of local interests. CRG members ensure that topics discussed are relevant and reflect areas of local community importance.

A key function of the CRG is to advise NHG in creating partnerships through its Community Investment Fund. CRG members assess applications made through this fund, and provide feedback and recommendations to NAC regarding projects that they believe will have the most benefit for the local community.

The CRG comprises representatives from a broad cross section of local and regional stakeholder groups. The majority, 9 of the 11 community members, live or work in the communities immediately surrounding the Mine and the remainder reside within the TRC area. The current Chairperson of the

CRG is a local landholder and neighbour of the mine. The CRG members include representatives from:

- TRC;
- Local landholder representatives;
- Agforce;
- Health;
- Education;
- Business;
- Emergency Services;
- Environment e.g. Landcare;
- Aboriginal and Torres Strait Islander community;
- Regional communities surrounding the mine, including Jondaryan; and
- NHG.

The matrix of the CRG is developed with input from the CRG and reviewed annually. An application process is conducted every 12 months, and community members are encouraged to apply through advertisements and notifications in the local media and through the Community Information Centre. All applicants to the initial CRG in 2012 were accepted for the twelve month tenure. Community groups are also invited to present to the CRG in relation to local projects, issues or opportunities. CRG membership and meeting minutes are regularly updated on the NAC website: www.newhopegroup.com.au.

5.3.10.12 Issue 12

NAC submitted a draft EIS in November 2009 for the New Acland Stage 3 Coal Mine Expansion Project (the original proposal), which involved the staged expansion of the Mine up to a capacity of 10 Mtpa. The original proposal was expected to extend coal production at the Mine until approximately 2042.

Since that time, the NHG liaised with the State and Commonwealth governments in the preparation of a Supplementary Report. Prior to the finalisation of the Supplementary Report, the NHG revised the Project's scope, in direct response to comments and concerns raised by Government and other stakeholders during the EIS process. The NHG understands the importance of properly securing its social licence to operate, and as a consequence, has made significant changes to the original proposal. Further details on the significant changes can be found in **Section 1.1** of the draft EIS.

In relation to political comments made by the LNP, this issue should be raised with the State Government or your local MP.

5.3.11 Private Submitter 213

5.3.11.1 Issue 1

As stated in **Section 9.5.7** and other sections of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by environmental impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

In relation to impacts on property values, NAC believes this issue is outside the scope of the EIS due to the range of external non-project related factors that may influence property prices. In general, NAC is aware from previous discussions with a local Real Estate Agent that property prices are not normally negatively impacted by the presence of the Mine. However, local property sales may take longer to complete.

If potential environmental impacts cannot be adequately managed, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements. Refer to **Section 5.3.11.7** and **Section 5.3.11.8** of the AEIS for further information.

5.3.12 Private Submitter 228

5.3.12.1 Issue 1

Please refer to **Section 5.1.6** for information relating to this issue.

5.3.12.2 Issue 2

Section 5.11 of the draft EIS addresses the flooding assessment undertaken for Lagoon Creek for the revised Project. This assessment covers the flooding changes due to the development of mine structures, levees and the rail spur. The predicted changes to flood levels due to the development of the levees for mining pits is in the order of 0.5 m for the 1 in 1,000 AEP flood event. This predicted increase occurs within the NAC mining lease and is approximately 3 km from the mining lease boundary. There is predicted to be no impacts on flood levels outside of the mining lease due to the development of the levees.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

The development of the rail spur was represented in the model with a preliminary design. This design included the representation of a number of structures for the conveyance of flood flows through the rail. There is predicted to be localised increases in flood levels upstream of the rail crossing of Lagoon Creek. These increases are predicted to be primarily on land owner by the APC. There is an area of approximately 0.5 ha with a predicted flood level increase of 150 mm, NAC is currently in discussions with this affected landowner to determine the most appropriate remedy. There is predicted to be no other flood impacts to properties due to the development of the rail spur.

The rail spur is proposed to connect to the existing railway line approximately 2 km south east of Jondaryan and approximately 1 km north west of the Doctors Creek crossing of the existing railway line. The connection of this rail spur is not predicted to impact of flood levels in Doctors Creek.

5.3.12.3 Issue 3

The revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2 % of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek.

The flooding assessment undertaken for the draft EIS covers Lagoon Creek to Jondaryan. The highest point between Lagoon Creek and Doctors Creek near Jondaryan is 8m higher than Doctors Creek. Therefore, Lagoon Creek and Doctors Creek are considered to be independent in their flooding regimes and the assessment of flooding in a flood model for Doctors Creek is not considered to be required for the draft EIS.

5.3.12.4 Issue 4

In **Section 9.4.1** of the draft EIS, NAC recognise wind erosion from disturbed areas and stockpiles have the potential to create dust. Following robust dust modelling, NAC do not expect dust levels to exceed regulatory limits at any sensitive receptors surrounding the revised Project and therefore have not considered covering the proposed coal stockpiles. Stacker reclaimer open-air stockpiles are well-regarded and considered leading practice in Australia. Appropriate dust control measures including visual monitoring and watering of RoM coal stockpiles will be undertaken if significant dust levels are generated.

NAC has developed an air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and a understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 $\mu g/m^3$ and facilitate adaptive air quality management;

- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in the Air Quality Management Plan (refer to draft EIS **Appendix J.10**).

5.3.12.5 Issue 5

The proposed rail spur crosses land used for agriculture and has been cleared for many years. The rail spur also crosses Lagoon Creek, which is a shallow depression that lacks riparian vegetation. The agricultural use of the land along the rail spur alignment cropping and grazing, which has resulted in the clearing of vegetation to allow the planting of crops and pastures.

An area of remnant vegetation is located at the southern end of the rail spur alignment, south of Lagoon Creek and north of the Jondaryan-Sabine Road. This vegetation is *Eucalyptus populnea* woodland (RE 11.3.2) and *Eucalyptus populnea* woodland with *Acacia harpophylla* and/or *Casuarina cristata* (RE 11.3.17).

The area of vegetation to be cleared has increased as a result of clearing for the rail spur. The rail spur corridor will be typically 40 m wide (20 m from the rail centreline to the boundary fence), as described in **Section 13.6.4** of the draft EIS. The construction of the rail spur will result in the clearing of the 1.5 ha of Poplar Box woodland, south of Lagoon Creek and north of the Jondaryan-Sabine Road. The width of clearing in this patch of Poplar Box will be limited to 40 m to reduce the loss of vegetation within this community. The remainder of the rail spur alignment will not impact areas of native vegetation.

The revised Project will result in the clearing of 144.4 ha of nine regional ecosystems and 64.7 ha of two threatened ecological communities, as listed in **Table 5.3-B**.

Table 5.3-B Area of threatened ecological communities and regional ecosystems to be cleared

Threatened Ecological Community	**EPBC status**	**Area cleared (ha)**
Brigalow (*Acacia harpophylla*) dominated and co-dominated community	Endangered	24.6
Bluegrass dominant grasslands of the Brigalow Belt Bioregions (North and South)	Endangered	40.1
Total area of TECs		64.7
Regional Ecosystem	**VM Status**	**Area cleared (ha)**
Acacia harpophylla and/or *Casuarina cristata* open forest on alluvial plains (RE 11.3.1)	Endangered	12.0
Eucalyptus populnea woodland on alluvial plains (RE11.3.2)	Of concern	6.0
Eucalyptus populnea woodland with *Acacia harpophylla* and/or *Casuarina cristata* on alluvial plains (RE11.3.17)	Of concern	5.8
Dichanthium sericeum and/or *Astrebla* spp. grassland on alluvial plains. Cracking clay soils (RE 11.3.21)	Endangered	35.9
Dichanthium sericeum grassland on Cainozoic igneous rocks (RE 11.8.11)	Of concern	4.1
Eucalyptus orgadophila open woodland on Cainozoic igneous rocks (RE 11.8.5 and 11.8.5a)	Least concern	60.3
Acacia harpophylla and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks (RE11.9.5)	Endangered	12.6
Acacia harpophylla, *Eucalyptus populnea* open forest on Cainozoic fine-grained sedimentary rocks (RE11.9.10)	Of concern	4.1
Eucalyptus moluccana or *E. microcarpa* open forest on fine grained sedimentary rocks (RE 11.9.13)	Of concern	3.6
Total area of regional ecosystems		144.4

Please refer to **Appendix M** of the AEIS for information relating to proposed vegetation offsets.

5.3.12.6 Issue 6

The route of the proposed realignment of the Jondaryn-Muldu Road will follow existing road reserves on property owned by APC. The realigned road will lie to the west of the Manning Vale West Pit. The alignment has been walked to determine the presence of listed flora species and the fauna habitat. No listed flora species or areas of suitable fauna habitat were identified.

The areas of vegetation found in existing road easements are very narrow, with clearing of vegetation on adjacent properties coming to the roadside fences. As a result, the patches of vegetation that remain in road easements are very narrow, often being one tree wide. Semi-evergreen vine thicket vegetation is not present within the road easements, where roads are to realigned or upgraded for the revised Project.

The placement of power poles will specifically avoid areas of threatened ecological communities and listed species, as there is flexibility on the location of the poles. Lay down areas and related facilities required for the construction of the relocated power lines will also be located to avoid matters of national environmental significance and Queensland listed species. The revised Project will require the relocation of telecommunication facilities. These facilities will be relocated by Telstra, in association with NAC. A telecommunications hut and telephone cables will need to be removed from the revised Project site. Impacts associated with the relocation of the telecommunication infrastructure will be managed by Telstra as part of their relocation of these facilities.

5.3.12.7 Issue 7

The species that have been assessed in the draft EIS for the revised Project are based on the results of Wildnet database search results, from a five kilometre search, centred on Acland. Advice from the DoTE on the species of interest under the EPBC Act has also be taken into account to determine the MNES to be assessed in the draft EIS for the revised Project. **Table 7-13** of the draft EIS presents the likelihood of species being located in within the revised Project site.

5.3.12.8 Issue 8

Surveys were completed in October and November 2013 for Brigalow reptiles, bats and birds. The results of these surveys are reported in **Section 7.5.3** of the draft EIS and **Section 3.2.3** of **Appendix H.1**.

Table 7-3 of the draft EIS includes the surveys for the Brigalow reptiles that were completed in November 2013.

Figure 7-4 and **Figure7-5** of the draft EIS illustrate the location of fauna survey sites. These survey sites are located in areas both within the disturbance footprint of the revised Project and in areas that are not intended to be impacted by the revised Project.

The species that have been assessed in the draft EIS for the revised Project are based on the results of Wildnet database search results, from a five kilometre search, based on Acland. Advice from the DoTE on the species of interest under the EPBC Act has also be taken into account to determine the MNES to be assessed in the draft EIS for the revised Project. **Table 7-13** of the draft EIS presents the likelihood of species being located in within the revised Project site.

The likelihood of occurrence of species assessed in the draft EIS has been completed with knowledge of habitat preferences for the species.

5.3.12.9 Issue 9

NAC do not expect dust levels to exceed regulatory limits at the residences of any sensitive receptors as a result of the new TLF.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;

- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10**.

NAC do not expect noise levels to exceed regulatory limits at the residences of any sensitive receptors as a result of the MHF and new TLF.

NAC has proposed a comprehensive Noise and Vibration Management Plan (draft EIS **Appendix J.11**) to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process.

Due to the rural landscape within and surrounding the Study area, night lighting is expected to create a glow in the night sky that will be visible from the surrounding region and nearby residences. However, as the Mine already provides some luminance in the night sky, it is unlikely that the revised Project will substantially increase the existing visual impact of night time glow.

As detailed in **Section 3.3** of the LSMP (**Appendix J.18** of the draft EIS), for issues relating to the operating mine, neighbours have access to senior site personnel via a telephone number which operates 24 hours a day. This 'fast response' approach is designed to ensure access to the NAC employee on site at the time with the necessary responsibility to take immediate actions if required. NAC's Environmental Team will be available for contact during business hours by email (with the email address available through a web-site), and by telephone through the Mine's reception.

A legible record of all concerns will be kept by NAC's Environmental Team, who are responsible for the revised Project's environmental concerns management. Each concern received in relation to the revised Project will be formally documented and record of the following information is maintained for legal and compliance purposes.

1. The date and time of concern.
2. The nature of concern (e.g. dust).
3. The method by which the concern was received (e.g. telephone).
4. The name and title of the person who receives the concern.
5. The personal details of the complainant, if made available, or if no details were provided, a note to that effect.
6. The action taken in relation to the concern, including any follow-up contact, the outcome of investigations and any required on-going actions.
7. If no action was taken, then the reason why no action was taken.
8. The final status of the concern (e.g. resolved, continuing or unresolved).

NAC will continue to use its 24 hr contact number for near neighbours to allow quick rectification of directional lighting issues from mobile lighting units.

NAC will undertake the necessary measures to ensure lighting efficiency is considered during the installation phase at the revised Project's new infrastructure areas. The minimisation of 'light spillage' towards sensitive receptors will be a priority and will involve mitigation measures such as the use of light shielding, the appropriate selection of equipment (e.g. illumination intensities) and the correct directional placement of lighting structures.

NAC's EA for the Project will include conditions to address adverse light impacts from a nuisance perspective.

5.3.12.10 Issue 10

During September 2012, in response to concerns around dust nuisance, the DSITIA completed air quality monitoring within the Brisbane suburb of Tennyson along the Metropolitan rail line to the Port of Brisbane (http://www.ehp.qld.gov.au/air/pdf/tennyson-dust-report.pdf). Further more comprehensive monitoring was undertaken during March and April 2013 and then again during May 2013 at six locations along the rail line of the South West System (SWS) (Oakey, Willowburn (Toowoomba), Dinmore, Tennyson, Fairfield and Coorparoo) and one background location on a section of the

Metropolitan rail system not used by coal trains (Chelmer). The two-stage monitoring during 2013 was to assess air quality without and then with veneering of coal in rail wagons from the JRLF (DSITIA, 2013).

In all cases, ambient PM_{10} and $PM_{2.5}$ concentrations did not exceed the EPP (Air) 24-hour average air quality objectives of 50 µg/m^3 and 25 µg/m^3 respectively on any days during each monitoring period. The PM_{10} and $PM_{2.5}$ concentrations measured at the monitoring sites located on the SWS differed little from those measured at DSITIA's ambient monitoring network sites in Brisbane. Furthermore, coal dust represented no more than 20% of dust deposited. The effect of veneering was not clear as it may have been masked by wet weather. Thorough coal washing appears to have limited coal dust emissions. The most recent report concluded a low risk of health impacts from coal dust, either within or outside the rail corridor, although there may be a potential for short term nuisance impacts from dust deposition (DSITIA, 2013) These results are consistent with findings from a 2008 Queensland Rail study in Central Queensland (Connell Hatch, 2008). The final reports for this air quality monitoring program are provided at https://www.ehp.qld.gov.au/management/coal-dust/monitoring.html.

Coal Dust Management Plans (CDMP) have been developed for the rail systems in Queensland to address perceived and nuisance impacts (QR Network 2010, SWS User Group 2013). The SWS User Group CDMP proposed improved management practices including veneering at all coal loadout facilities by December 2013. NAC as member of the SWS User Group has ensured that it has completed all the applicable actions from the CDMP.

To monitor the performance of the SWS User Group CDMP, continuous real-time air quality monitoring has been set-up by the Queensland government along the South West Rail System. The results from this target monitoring program has been successful in independently demonstrating that no significant coal dust issues currently exist in relation to coal transport along the South West Rail System. This data may be viewed at https://www.ehp.qld.gov.au/air/data/search.php.

NAC proposes to construct a new TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering and profiling system. The TLF's design expects to reduce potential coal dust emissions further, for example, through the use of a hopper feed to directly create the correct profile and prevent overloading. These actions were key long term recommendations from a recent report on the review of dust from coal trains in Queensland, presented to the Senate Standing Committee on Community Affairs Inquiry "The impacts on health of air quality in Australia", during 2013 (QRC 2013).

The revised Project will result in up to an additional 27 weekly rail movements along the SWS to QBH. Additional rail movements from the revised Project are unlikely to increase fugitive coal dust emissions along the rail corridor due to the implementation of the CDMP and the advanced TLF. The revised Project is not expected to result in exceedances of the ambient air quality objectives in the EPP (Air). Importantly, ongoing rail coal dust monitoring of the SWS is planned by the DSITIA (DSITIA, 2013). Further discussions on this matter are provided in **Chapter 9**, **Section 9.4.5** of the draft EIS.

In terms of physical properties, NAC's coal products possess one of the highest hardness ratings, and as a result, produce significantly reduced levels of dustiness, particularly when compared to the coals mined in the Bowen Basin of central Queensland. For example, tests conducted during 2011 by NAC

of the product coal stockpiles at the JRLF indicates the average silt content is 0.4%, which represents a significantly lower value compared to other coal types in Queensland (e.g. 5-10%). This physical property is a trait of Surat and West Moreton Basin derived coals. In addition, NAC's coal products are transported in a washed state, and therefore, possess a moisture level of approximately 10%. The combination of these physical attributes helps minimise the potential for dust generation from NAC's coal products.

In relation to the efficacy of the use of wagon lids, Connell Hatch as part of its work completed for the Queensland Rail Environmental Evaluation conducted an analysis of the feasibility, practicability and cost-effectiveness of either retrofitting wagon lids to the existing rail fleet or redesigning rail wagons to incorporate a lid across the central Queensland coal network. Connell Hatch reported that wagon lids are used in the transport of some materials in northern Queensland and in the transport of coal in North America where very cold conditions, snow and ice can adversely affect the coal (QRC, 2013).

While Connell Hatch found that wagon lids are likely to substantially reduce coal dust emissions from wagons, it was acknowledged that there were many potential adverse operational impacts and costs associated with implementing wagon lids that cannot be estimated without a thorough detailed investigation. The major disadvantages of introducing wagon lids include:

- large operating cost (retrofitting only);
- modifications to all loading and unloading facilities (i.e. in terms of time, practicality and cost); and
- ramifications of lid failure (QRC, 2013).

The preliminary work presented in the environmental evaluation suggests that wagon lids are unlikely to be a feasible solution in the short term (QRC, 2013).

Therefore, NAC believes the Private Submitter's suggested solution of covering coal wagons is currently not a viable solution based on the associated disadvantages and the fact there is no evidence from independent air quality assessments of a significant impact to residences along the SWS. In addition, NAC believes using current scientific evidence that the cumulative dust impacts associated with the operation of the revised Project and its associated coal transport are unlikely to significantly affect the local or regional airshed.

NAC's proposed consultation with the Private Submitter in relation to this issue is outlined in **Section 5.1.10** of the AEIS.

5.3.13 Private Submitter 238

5.3.13.1 Issue 1

Section 3.9.4 of the draft EIS does state "All water management structures associated with new infrastructure will be designed and constructed to manage a 1 in 10 year AEP rainfall event" as the submitter notes. The Private Submitter also notes that the Lagoon Creek levee has been designed to a PMF event. The 1 in 10 year AEP criteria referred to in **Section 3.9.4** of the draft EIS should be read as a minimum. All flood criteria designs for dams proposed for the revised Project have been assessed based on *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* (DEHP, 2013).

5.3.13.2 Issue 2

Section 5.10.4 of the draft EIS provides a summary of the verification of the flood modelling to the January 2011 flood event. The analysis included a review of regional and local rainfall data, as well the Lagoon Creek flow loggers operated by NAC. In addition to this, the design flood event modelling was compared to the flood frequency analysis undertaken for the QLD Reconstruction Authority (Qld RA) for the town of Jondaryan. The Qld RA analysis included the collection of historical flood levels and model calibration to these historical flood levels within the township of Jondaryan. **Table 5-12** of the draft EIS indicates that the model compared well to this assessment. It is noted that the draft EIS has assessed and designed for events significantly rarer than the of the observed historical January 2011 flood levels.

5.3.14 Private Submitter 256

5.3.14.1 Issue 1

The Project Rationale in **Section 1.8** of the draft EIS refers to truck and loader operations until 2029 in relation to the uncovering and mining of coal within the revised Project ML areas well north of the township of Jondaryan. The JRLF will cease operation and be decommissioned once the new Rail Spur, Balloon Loop, TLF and MHF for the revised Project is approved and constructed. The decommissioning of the JRLF is estimated to commence in 2018 and to be completed by 2019, subject to the relevant approvals for the revised Project being obtained in 2015. The area will be rehabilitated and returned to grazing, as described in **Section 3.11.1** of the draft EIS.

In relation to the Private Submitter's concerns about dust from operation of the JLRF, NAC will continue to employ an array of dust mitigation actions at the facility until decommissioning is completed. Some of the dust mitigation completed to-date at the JRLF have included:

- constructing a new domestic product coal pad further away from Jondaryan (i.e. as a high movement pad);
- sealing of high volume roadways (which conveys 75% of onsite traffic);
- introduction of a larger water truck;
- execution of the key findings of a traffic direction study (QMI Solutions 2009) to minimise fugitive dust generation from traffic movements (i.e. by controlling the level and direction of traffic movements and minimising turning requirements for truck traffic);
- increasing the size of the main dam on site to improve water capture and storage for dust suppression purposes;
- construction of a grassed berm on the upwind side of the new domestic product coal pad to minimise the generation of windborne dust (i.e. in relation to the main prevailing wind direction);
- upgrading of the bore pump on site and its power supply to improve water extraction (rate and reliability) for dust suppression purposes;
- planting of additional trees strategically around the main stockpile pad area and to the east of the domestic product coal pad to act as windbreaks; and

- implementing a real-time air quality monitoring system within Jondaryan combined with adaptive management practices that may stop or reduce operations at the JRLF based on the real-time monitoring data.

NAC will maintain its advanced real-time air quality monitoring within Jondaryan until decommissioning is completed. As explained, the results of the real-time air quality monitoring system are used to trigger stringent management measures at the JRLF should air quality limits be exceeded within Jondaryan. NAC will also continue to report the results of this monitoring on a regular basis to the Jondaryan residents, the wider public and the DEHP (main regulatory authority). NAC's real-time monitoring system involves the use of TEOMS to measure total suspended particulates on a continuous basis within Jondaryan. This form of air quality monitoring is considered leading practice by the regulatory authorities.

NAC has worked with the JDRA to address the Jondaryan residents' concerns in relation to the JRLF and has involved individual residents in specific studies into rainwater tank water quality and the presence of coal in deposited dust with rainwater tanks and on opens surfaces. In summary, these additional studies have not identified any significant environmental or other issues in relation to the operation of the JLRF.

From a health perspective, NAC continues its quarterly PM_{10} particulate (respirable dust) monitoring and has completed a correlation study to help predict real-time PM_{10} levels from the TEOM data. In summary, this monitoring has not demonstrated that the operation of the JRLF is impacting on the respiratory health of the Jondaryan community from airborne particulates. An independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates

To help address community concerns, in recent times NAC has significantly reduced the amount of product coal stockpiled at the JRLF to well below the facility's approved capacity, and under normal operational circumstances (e.g. no extended rail outages), intends to continue this management practice at the JRLF until the cessation train loading activities. This management approach by NAC will ensure that the potential for noise and air quality impacts are further minimised through the reduction in equipment usage (e.g. dozer pushes on the stockpiles).

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

For further information regarding this matter also refer to **Section 5.1.4** of the AEIS.

5.3.14.2 Issue 2

Sensitive receptors have been identified based upon modelling analysis completed for Noise, Air Quality and Groundwater. The JRLF is planned to be decommissioned and a new TLF closer to the mining areas will be constructed and used for loading trains during the life of the revised Project. Therefore residences within and close to Jondaryan are not expected to be impacted by coal loading

activities and have not been identified as sensitive receptors for the revised Project. For further information relating to this matter, please refer to **Section 5.1.4** and **Section 5.1.10** of the AEIS.

5.3.14.3 Issue 3

The JRLF will be decommissioned once the new Rail Spur, Balloon Loop, TLF and MHF for the revised Project is approved and constructed. This is estimated to commence in 2018 and to be completed by 2019. The area will be rehabilitated and returned to grazing, as described in **Section 3.11.1** of the draft EIS. Residences within and close to Jondaryan are therefore not expected to be impacted by noise emissions from the revised Project.

NAC is required to comply with the noise conditions in the current EA for JRLF which outlines noise limits for daytime, evening and night time operations. If noise monitoring shows that activities conducted at the JRLF are not complying with the noise limits, NAC will undertake measures to resolve any legitimate complaints in consultation with affected residents.

NAC has implemented a new reversing system which utilises a broader noise spectrum at the JRLF. This system reduces the tonal qualities of the beepers and as a result the noise is less noticeable for residents. A major noise source generated from the activities at the JRLF is trains movements. Train movements to and from the JRLF do not pass through Jondaryan under normal circumstances.

NAC, in coordination with Aurizon, has implemented the following operational changes to reduce potential for noise impacts from trains on Jondaryan residents:

- Less idling of stationary locomotives in the vicinity of Jondaryan; and
- Shorter siren blasts as trains are approaching level crossings.

For further information regarding this matter refer to **Section 5.1.4** and **Section 5.1.10** of the AEIS.

5.3.15 Private Submitter 269

5.3.15.1 Issue 1

NAC has proposed a comprehensive Noise and Vibration Management Plan (draft EIS **Appendix J.11**) to manage potential noise and vibration impacts from the revised Project including the implementation of:

- Noise and Vibration Mitigation Measures;
- Weather Forecasting System;
- Noise and Vibration Monitoring;
- Complaint Management;
- Reporting;
- Auditing;
- Buffer Zone Strategy; and
- Dispute Resolution.

By implementing noise management and mitigation measures including reduced night time operation and using attenuated equipment (noise attenuation of noisier equipment including excavators, track dozers, loaders and rear dump trucks), the predicted noise levels from the mining operation will meet the EPP (Noise) LAeq,adj,1 hr at all noise sensitive receptors over the life of the revised Project, including the residence of the Private Submitter. Modelling results for sensitive receptor 10 for various times and conditions are presented in **Appendix G.7** of the draft EIS.

NAC will establish a real-time noise monitoring network, which will be used in conjunction with a weather forecasting system and an adaptive management process, to proactively relocate, reduce or stop noisier mining operations and other noise sources.

Based on ambient conditions (climate and the current mine plan) and feedback from the real-time noise monitoring (warning and alarm protocols), NAC may be required to modify (limit) or stop mining operations in the Manning Vale East pit during the night time period. This requirement is based on the noise assessment work completed for the revised Project's EIS.

NAC will ensure noisier mining equipment such as excavators, track dozers, loaders and rear dump trucks are fully attenuated. This requirement is based on the noise assessment work completed for the revised Project's EIS.

If a legitimate complaint is received and/or a noise issue is identified by investigation, where possible NAC will modify mining operations until a satisfactory solution for the noise issue is developed and implemented. NAC will ensure that all ameliorative actions in relation to noise issues are conducted in a timely manner to assist the resolution process. For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.15.2 Issue 2

Based on thorough modelling, NAC do not expect dust levels to exceed regulatory limits at the Private Submitter's place of residence.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and an understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10** of the draft EIS.

The Private Submitter has questioned who is responsible for taking action in the event the dust forecasting system triggers a warning of predicted dust impacts to a sensitive receptor/s. As per **Table 1-2** of **Appendix J.10**, NAC mine management will be responsible for ensuring the Mine possesses an efficient and focussed concerns management procedure to properly manage legitimate concerns in a timely manner. Mine management will also be responsable for taking immediate action as required and as informed by the dust forecasting system.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.15.3 Issue 3

During construction, operation and decommissioning, mining/construction equipment, trucks, light vehicles and diesel locomotives will emit exhaust emissions. Air emissions from mining/construction equipment are primarily associated with the products of combustion of diesel and unleaded fuel. The operation of equipment during construction and operation will also generate gaseous and particulate combustion products (as PM_{10} and $PM_{2.5}$), nitrogen oxides, sulphur oxides and volatile organic compounds.

An emissions inventory for PM2.5, CO, NO2 and SO2 from mining equipment and vehicles during the operation of the revised Project is presented in **Section 9.4.2** (Vehicle Emissions) of the draft EIS. An emissions inventory for PM2.5, CO, NO2 and SO2 from locomotives on the rail spur and balloon loop is presented in **Section 9.4.2** (Locomotive Emissions) of the draft EIS. The quantities of exhaust emissions are relatively low and are not expected to exceed the ambient air quality goals. This conclusion is supported by roadside monitoring in Queensland (EPA, 2001).

The combustion process also generates small quantities of air pollutants referred to as air toxics. Air toxics included formaldehyde, toluene, xylene and polycyclic aromatic hydrocarbons (PAHs). Motor vehicles are one of the main sources of emissions of air toxics. DEHP measurements of concentrations of air toxics in South East Queensland indicate that levels are well below ambient air quality objectives in the EPP(Air). The quantities of these emissions from the operation of mining equipment, vehicles and locomotives will be much lower than in an urban area such as South East

Queensland. The emissions of air toxics are not expected to exceed the ambient air quality goals in the EPP(Air) due to small quantities of emissions and distance from operations to the sensitive receptors. NAC therefore do not agree with the Private Submitter regarding the need to introduce the ability to real time monitor pungent diesel exhaust malodour at sensitive receptors.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.15.4 Issue 4

For information regarding this matter refer to **Section 5.1.6** and **Section 5.2.3** of the AEIS.

5.3.15.5 Issue 5

Ergon Energy as the regional electricity supplier for the Acland district will be solely responsible for management of the adjustments to the electrical distribution network required by the revised Project for safe and efficient operation. NAC has commenced consultation with Ergon Energy in relation to this matter. NAC is exploring possible options with Ergon Energy to minimise impacts to surrounding landholders. NAC commits to raising the Private Submitter's concern with Ergon Energy.

NAC will be seeking upgrade of the revised Project's power supply prior to the commencement of mining during the construction phase, which may occur during 2016 or 2017, depending on the timing of the successful grant of Mining Lease Application 50232. The required approvals would be sought

before commencement of any related on-ground activities. It is envisaged that Ergon Energy will also undertake some form of consultative process once details around the matter are clarified and a contractual agreement is established with NAC.

5.3.15.6 Issue 6

NAC recognise the issue of abandoned dwellings under their ownership and have plans in place to remove such dwellings and to tidy-up the properties. For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.15.7 Issue 7

"Project Fatigue" discussed in **Section 16-60** of the draft EIS refers to consultation fatigue that can occur with sensitive receptors or residences in areas that are close to several projects. The revised Project is the only resource project located in Oakey and surrounds. As such, there are no other consultation programs or project information packages being presented to the communities of the SIA study area, which reduces the risk of project fatigue.

NAC's mining operations will continue to be subject to strict compliance limits for air quality (i.e. for nuisance and health based matters) and noise and vibration, as a component of its EA. Management and mitigation of air, noise and vibration impacts is detailed in **Section 5.1.3** of the AEIS.

5.3.16 Private Submitter 272

5.3.16.1 Issue 1

The Private Submitter's feedback on the community consultation program is welcomed. NAC note that two information sessions were held at Jondaryan and Goombungee during the evening hours between 3 p.m and 7 p.m.

There are a number of other methods available for the public to contact NAC staff, including the NAC Community Office, telephone contact numbers, e-mail addresses and via the NHG and revised Project websites.

The Community Liaison Officer was a key initiative undertaken by NAC in recent years to improve its community engagement strategy. This initiative has proved highly successful and is continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

For further information relating to this matter refer to **Section 5.1.10** of the AEIS.

5.3.17 Private Submitter 273

5.3.17.1 Issue 1

In response to the Private Submitter's concerns about the continued operation of the JRLF and the associated potential for adverse dust impacts, NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals.

If the main statutory approvals for the revised Project are granted during 2015, a further two years will be required to construct the new rail spur and balloon loop, TLF and MHF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of these new structures is expected during 2017, which will allow the cessation of train loading activities at the JRLF. Decommissioning and rehabilitation of the JLRF will then be conducted between 2017 and 2019. Further details on the decommissioning strategy for the JRLF are provided in **Chapter 3**, **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

In relation to the Private Submitter's concerns about dust from operation of the JLRF, NAC will continue to employ an array of dust mitigation actions at the facility until decommissioning is completed. Some of the dust mitigation completed to-date at the JRLF have included:

- constructing a new domestic product coal pad further away from Jondaryan (i.e. as a high movement pad);
- sealing of high volume roadways (which conveys 75% of onsite traffic);
- introduction of a larger water truck;
- execution of the key findings of a traffic direction study (QMI Solutions 2009) to minimise fugitive dust generation from traffic movements (i.e. by controlling the level and direction of traffic movements and minimising turning requirements for truck traffic);
- increasing the size of the main dam on site to improve water capture and storage for dust suppression purposes;
- construction of a grassed berm on the upwind side of the new domestic product coal pad to minimise the generation of windborne dust (i.e. in relation to the main prevailing wind direction);
- upgrading of the bore pump on site and its power supply to improve water extraction (rate and reliability) for dust suppression purposes;
- planting of additional trees strategically around the main stockpile pad area and to the east of the domestic product coal pad to act as windbreaks; and
- implementing a real-time air quality monitoring system within Jondaryan combined with adaptive management practices that may stop or reduce operations at the JRLF based on the real-time monitoring data.

NAC will maintain its advanced real-time air quality monitoring within Jondaryan until decommissioning is completed. As explained, the results of the real-time air quality monitoring system are used to trigger stringent management measures at the JRLF should air quality limits be exceeded within Jondaryan. NAC will also continue to report the results of this monitoring on a regular basis to the

Jondaryan residents, the wider public and the DEHP (main regulatory authority). NAC's real-time monitoring system involves the use of TEOMS to measure total suspended particulates on a continuous basis within Jondaryan. This form of air quality monitoring is considered leading practice by the regulatory authorities.

NAC has worked with the JDRA to address the Jondaryan residents' concerns in relation to the JRLF and has involved individual residents in specific studies into rainwater tank water quality and the presence of coal in deposited dust with rainwater tanks and on opens surfaces. In summary, these additional studies have not identified any significant environmental or other issues in relation to the operation of the JLRF.

From a health perspective, NAC continues its quarterly PM_{10} particulate (respirable dust) monitoring and has completed a correlation study to help predict real-time PM_{10} levels from the TEOM data. In summary, this monitoring has not demonstrated that the operation of the JRLF is impacting on the respiratory health of the Jondaryan community from airborne particulates. An independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates

To help address community concerns, in recent times NAC has significantly reduced the amount of product coal stockpiled at the JRLF to well below the facility's approved capacity, and under normal operational circumstances (e.g. no extended rail outages), intends to continue this management practice at the JRLF until the cessation train loading activities. This management approach by NAC will ensure that the potential for noise and air quality impacts are further minimised through the reduction in equipment usage (e.g. dozer pushes on the stockpiles).

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.17.2 Issue 2

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

NAC has developed its air quality management strategy based on rigorous scientific investigations (e.g. air dispersion modelling), a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, statutory regulatory requirements (e.g. air quality limits) and a knowledge of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will involve:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Chapter 9**, **Figure 9-37** of draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will assist compliance with the ambient air quality objectives in the EPP (Air) and minimise the potential for adverse air quality impacts at its neighbours' properties.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.17.3 Issue 3

The noise assessments undertaken for the EIS were conducted to understand the existing noise environment surrounding the revised Project site, to predict the potential noise impacts from the revised Project's operation and to provide mitigation measures to reduce the identified noise impacts

to acceptable levels at nearby neighbour's residences. The noise assessments undertaken for the EIS were designed to address the approved ToR for the revised Project.

As a result of the closure of the JRLF as a key element of the revised Project, no specific noise assessments were required at Jondaryan as part of the EIS. In general, NAC will continue to operate the JLRF up until closure of the facility in compliance with the noise conditions of its EA, which is regulated by the DEHP.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.18 Private Submitter 279

5.3.18.1 Issue 1

NAC acknowledges the Private Submitters issue in relation to feral pests and understands the environmental implications if this issue is not correctly managed, particularly as a large land owner in the Acland district. NAC works closely with the APC to address the issue and draws on the APC's experience to develop and implement effective pest management strategies. The APC and NAC periodically consult with the TRC, Agforce and DAFF to keep abreast of emerging pest and weed issues on the Darling Downs, and as required, participate in active pest and weed management programs within the Acland district (e.g. wild dog eradication).

As land managers within the Acland district, NAC and the APC also possess a statutory obligation to appropriately manage declared pest plants and animals under the *Land Protection (Pest and Stock Route Management) Act 2002*.

NAC has updated its pest and weed management program and produced a new PWMP for the revised Project site. The PWMP was developed in conjunction with the APC and is consistent with the APC's pest and weed management program. The PWMP is provided in **Appendix J.9** of the draft EIS. NAC understand that pest and weed management is an important issue within rural environment, and therefore, is committed to the delivery of a positive environmental outcome in relation to pest and weed management within the revised Project site.

5.3.19 Private Submitter 284

5.3.19.1 Issue 1

The NHG is committed to responsible land management and has demonstrated this commitment through the creation of the APC during 2006 to manage the land in an agriculturally productive manner both in front and behind the operational footprint of the Mine. The APC has provided great synergies with NAC's mining operations in the area of land management. NAC uses expertise from the APC to guide rehabilitation and other land management activities (e.g. pest and weed management).

In recent years, the APC has taken carriage of managing a grazing trial program within the rehabilitation areas at the Mine. This on-going and expanding program is designed to improve rehabilitation practices, maximise the long term grazing potential of the rehabilitated land, and develop a long term sustainable management regime for the rehabilitated land. The grazing trial program is supported by an independent agricultural consultant and scientifically evaluated by a local university. Further details on the outcomes of the grazing trial program are provided in **Section 5.1.2** of the AEIS. The implementation of the grazing trial program further demonstrates that the NHG is committed to responsible land management within its Darling Downs land holdings.

NAC's management actions at the Mine are directed at achieving the best possible rehabilitation outcome. Rehabilitation activities are conducted progressively to ensure that disturbance areas are kept to an operational minimum. Topsoil is treated as a valuable resource and is subject to leading practices such as mapping of the soil types within the disturbance areas to guide recovery and direct return to minimise the amount of handling and the need for stockpiling. NAC will continue to refine its rehabilitation practices based on the findings of the grazing trial program. NAC has also produced a FLURP and a TMP for the revised Project to better manage the rehabilitation process. These documents are provided in **Appendix J.2** and **Appendix J.3** of the draft EIS, respectively.

From a conservation land management perspective, NAC has made a commitment to expand its conservation zone along the riparian zone of Lagoon Creek within the revised Project site. The management of this zone is provided in a CZMP in **Appendix J.6** of the draft EIS. In the future, NAC also intends to liaise with the TRC, Landcare and other similar organisations to investigate the possibility of conducting further conservation works within the riparian zone of Lagoon Creek upstream and downstream of the revised Project site. NAC believes its conservation commitments again demonstrate responsible land management, particularly as the Lagoon Creek area has been severely degraded in the past by poor farming practices.

NAC believes it can return the post mined land to a productive and profitable grazing state. NAC is committed to a sustainable approach to its mining operations and together with the APC's support believes it can return the land to a productive and profitable grazing state for future commercial use by the APC. Therefore, there is a long term business incentive within the NAC to make sure this goal is achieved at the cessation of the revised Project's mining activities.

NAC understands that there will be a loss of agricultural productivity within the revised Project's Study area. However, NAC believes the economic benefits of mining significantly outweigh the reduced agricultural productivity. This difference in economic benefits is clearly provided in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

In summary, NAC believes mining is a suitable land use for the Acland district, based on its responsible land management and sustainable mining practices, its commitment to return the former mined land to a productive agricultural state, and the significant economic benefits that will be gained from mining the coal resource over the life of the revised Project.

5.3.19.2 Issue 2

NAC has always conducted its community consultation in a professional, honest and open manner, regardless of the scale of the consultation event. NAC has completed a myriad of consultation actions over the life of the current Mine, and in recent years, has significantly expanded its consultation effort. As part of its "social licence to operate" with the local community, NAC is committed to continuing this effort for the revised Project and has developed a SIMP, which has been updated in **Appendix E** of the AEIS.

The SIMP possesses a Community and Stakeholder Engagement Action Plan that delivers a framework to provide effective community engagement and communications mechanisms for stakeholders and community members. Key strategies that will support the implementation of this Community and Stakeholder Engagement Action Plan for the revised Project include:

- continued operation of the CRG;
- continued commitment to provide the staffed New Hope Community Information Centre at Oakey;
- ongoing stakeholder and landholder engagement;
- implementation of the LSMP (**Appendix J.18** of the draft EIS);
- continued communications through the project phone line and email address;
- participation in the Oakey Community Care Group, Toowoomba Surat Basin Enterprise, Oakey Chamber of Commerce and other local groups; and
- partnerships and relationships with local educational institutions such as Oakey State High School, University of Queensland and University of Southern Queensland.

Importantly, these strategies have been developed in consultation with community members and stakeholders through meetings, ongoing feedback and the CRG. NAC will also evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC is acutely aware that it must earn and maintain its "social licence to operate" with the local community and is clearly focussed on achieving this outcome. For example, NAC has made many compromises in developing the revised Project. NAC understands that these compromises were essential to address community and government concerns and to regain its "social licence to operate" with the local community. Similarly, in keeping with leading practice, NAC has elevated its community support base through significant donations to local organisations (e.g. Careflight) and through the provision of a community support fund.

In addition, NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more open and transparent approach with the community in relation to its proposed future operation of the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.19.3 Issue 3

In terms of significant vehicle emissions for the revised Project, NAC has included the use of the main pieces of mining equipment over the revised Project's life in the development of the $PM_{2.5}$ model. This information is summarised in **Table 9-12** of the draft EIS.

Construction for the revised Project is expected to take place over an 18 to 24 month period with activities expected to be 12 hours per day. Construction activities will vary in intensity over the 18 to 24 month period and will mainly involve the construction of the rail spur, loop, TLF, MHF, dams and other minor infrastructure. It is expected vehicle emissions will primarily involve light vehicular travel by construction workers and the use of construction equipment at variable static locations depending on the construction task and its phase of development (e.g. cranes at the MHF). The transient nature of these activities and their reduced scale are not expected to add significantly to the total volume of emissions released by the revised Project. The release of light vehicle emissions will be confined on average to twice daily with variable numbers of vehicles and in terms of volume will be considerably less than other local sources, such as the Warrego Highway. In addition, implementation of mitigation measures described in **Section 9.5** of the draft EIS will assist in reducing the potential for air quality impacts during the construction phase.

In relation to $PM_{2.5}$ particulates, NAC has conducted extensive modelling of three operational scenarios over the life of the revised Project (i.e. 2019, 2023 and 2029). This modelling was based on a life of mine plan and conservative in nature to ensure a 'worst case' scenario was provided for impact assessment and mitigation purposes. This modelling effort has been reviewed at various stages of development by the DEHP. The modelled results for $PM_{2.5}$ particulates during 2019, 2023 and 2029 for the revised Project are provided in **Figures 9-13**, **9-20** and **9-28**, respectively, of the draft EIS. In summary, the Private Submitter for all scenarios is well below the statutory limit of 25 $\mu g/m^3$ for $PM_{2.5}$ particulates (i.e. based on a 24 hour period). These results were not unexpected because the Private Submitter is approximately 5.7 kilometres to the north-northwest of the Mine's main industrial area and the general prevailing winds are normally from an easterly direction for most of the year. A summary of the annual and seasonal wind conditions for Oakey are provided in **Figure 9-2** of the draft EIS. In addition, over the life of the revised Project mining operations progress in a southerly direction further away from the Private Submitter's residence which results in a further improvement

Overall, the modelled results for $PM_{2.5}$ particulates during 2019, 2023 and 2029 at all other identified sensitive receptors identified around the revised Project site do not exceed the statutory limit of 25 $\mu g/m^3$ for $PM_{2.5}$ particulates (i.e. based on a 24 hour period). These findings are not surprising as $PM_{2.5}$ particulates are mainly produced by major combustion sources, such as power stations. One of the main sources of $PM_{2.5}$ particulates in the Acland district would be the Warrego Highway.

The Private Submitter's reference to the $PM_{2.5}$ particulate monitoring at Balgowan is incorrect. The monitoring concurrently measured total suspended, PM_{10} and $PM_{2.5}$ particulates and was conducted at

a bore pumping station on the Balgowan property by the Queensland government agency, SIMTARS. The monitoring location was located approximately 2 kilometres to the north-northwest of the Mine entry gate and was considered downwind of the Mine for wind directions southeasterly to south-southeasterly. Three Thermo Scientific Model 2000 Partisol samplers were setup side-by-side within the fenced pump enclosure based upon *AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air - Guide to siting air monitoring equipment*. A total of 27 sets of samples were collected over the period 16 December 2011 to 21 April 2012 and analysed in two separate batches of 10 and 17 samples. Two separate summary reports on the findings were produced by SIMTARS and are discussed in **Section 9.3.5** of the draft EIS. The findings of this monitoring campaign further demonstrate that $PM_{2.5}$ particulates are not a significant issue in relation to general mining operations at the Mine.

In terms of PM_1 particulates, Australia's National Environmental Protection Council has not defined a standard and goal for this size particulate under the National Environmental Protection Measures (NEPM). PM_1 particulates like $PM_{2.5}$ particulates are mainly products of combustion (e.g. emissions from diesel engines) and similarly are a health concern as a result of their respirable size. NAC understands that accurate measurement of PM_1 particulates is difficult and the results of monitoring can be unreliable. NAC will continue to monitor the regulatory authorities approach to PM_1 particulates. In the absence of useful scientific guidance, NAC believes PM_1 particulates as a subset of $PM_{2.5}$ particulates should not be a not a significant issue in relation to general mining operations at the Mine.

In relation to blasting, NAC has developed a fume management procedure. This information is provided within the Air Quality Management Plan and is located in **Appendix J.10** of the draft EIS. NAC continues to work with its explosive supplier to reduce the risk of fume generation and employs a Drill and Blast Coordinator to properly manage the blast process at the Mine.

Therefore, NAC believes the evidence collected to-date does not support the Private Submitters concerns in relation to $PM_{2.5}$ or PM_1 particulates.

In relation to the Private Submitter's concerns about monitoring, NAC ensures that all forms of environmental monitoring are conducted in accordance with the applicable guidelines and standards. If specialist monitoring is required, NAC employs an independent specialist, which for air quality is normally the government agency, SIMTARS. NAC has developed an Air Quality Management Plan based around the modelling work conducted for the draft EIS, using the experience gained from over 10 years of operations at the Mine and using the professional advice from Jacobs SKM (EIS consultants).

NAC is committed to the implementation of a comprehensive air quality management strategy that includes a dust forecasting system, real time air quality monitoring and adaptive air quality management, which will involve the suspension or modification of mining activities to reduce dust emissions. NAC's air quality management strategy is considered leading practice by the regulatory authorities.

5.3.19.4 Issue 4

NAC disagrees with the Private Submitters inference that the coal stockpiles at the revised Project's MHF will adversely impact the air quality environment of the people living in Brymaroo. The comprehensive air quality modelling conducted for the draft EIS did not identify any significant adverse impacts at Brymaroo in relation to total suspended, PM_{10} and $PM_{2.5}$ particulates (i.e. from both nuisance and health based perspectives). Brymaroo is approximately 8 kilometres to the northwest of the revised Project's MHF, and therefore, based on distance alone, should not experience any adverse air quality impacts from the operation of the MHF.

The Private Submitter's statement in relation to the comparison between Brymaroo and Jondaryan is flawed from two perspectives. Firstly, extensive monitoring and additional testing within Jondaryan has not identified any diminishment in the air quality environment from the operation of the JRLF, and secondly, there is a significant difference in the distance between the JRLF and Jondaryan (approximately 1 kilometre), and the distance between the MHF and Brymaroo (approximately 8 kilometres).

5.3.19.5 Issue 5

The revised Project like the current mining operations at the Mine will be required to comply with strict air quality limits under the EP Act. These air quality limits have been developed from air quality guidelines that are specified by the DEHP in the EPP (Air). The purpose of the EPP (Air) is to protect the air quality environment for human health and wellbeing, the health and biodiversity of ecosystems, the aesthetics of the environment and for agricultural use.

The EPP (Air) has adopted the NEPM for Ambient Air Quality, which was released in 2003 by the National Environment Protection Council (NEPC, 2003). The NEPM sets national standards for the six key air pollutants – carbon monoxide, ozone, sulphur dioxide, nitrogen dioxide, lead and particles. The NEPM also provides advisory reporting standards for $PM_{2.5}$. The objectives for $PM_{2.5}$ set out in the EPP (Air) are also based on the NEPM's advisory standards. The NEPM for Ambient Air Quality is a special set of national objectives designed to assist in protecting or managing particular aspects of the environment and has been developed under the Commonwealth's *National Environment Protection Council Act 1994*.

For the revised Project, NAC intends to implement a comprehensive air quality management strategy including a dust forecasting system, real time air quality monitoring and adaptive air quality management actions that involve the suspension or modification of mining activities to reduce dust emissions. NAC believes its comprehensive air quality management strategy will allow the revised Project to comply with strict air quality limits. As a consequence, NAC is confident that the risk of health impacts to its neighbours at the Mine (including the revised Project) is negligible.

In addition, NAC has operated the Mine for over ten years in the Acland district and has not been formally approached by any neighbours with evidence of health impacts from its mining operations. NAC takes this matter very seriously and will respond appropriately if legitimate health issues were raised by a neighbour or other party. NAC has outlined its complaints management protocols in a LSMP, which is located in **Appendix J.18** of the draft EIS.

NAC conducts periodic personal monitoring for occupation health and safety purposes at the Mine. SIMTARS also conducts biannual occupational health and safety assessments to determine the status of air quality in the working environment at the Mine. This occupational health and safety based monitoring has not identified any respiratory based health issues at the Mine. This result is considered significant because a reasonable number of staff and workers have been employed at the Mine since commencement of operations over ten years ago. Importantly, this finding further supports NAC's belief that the risk of health impacts to its neighbours at the Mine (including the revised Project) is negligible.

5.3.19.6 Issue 6

NAC will continue to undertake a range of operational mitigation measure to reduce the potential for spontaneous combustion such as regular stockpile auditing to reconcile the amount of coal stored, control of stockpile geometry and regular inspections to identify early occurrences of hot spots. To-date, the spontaneous combustion of the coal extracted from the Mine has not been a significant issue. In general, the Acland-Sabine coal sequence due to its physical and chemical qualities (coal type and rank) is not as predisposed to spontaneous combustion as many other coal sequences in Australia. NAC from operational experience at the Mine has identified that if product coal is stockpiled for a long period of time it is more predisposed to spontaneous combustion and that RoM coal has not shown any propensity to spontaneously combust. NAC's current product coal handling practices from the Mine to the Port of Brisbane does not normally allow for the long term storage of product coal, which helps reduce the risk of spontaneous combustion.

As part of its health and safety management system, NAC is well prepared for emergencies, such as fires. NAC practices responses to emergency situations on a regular basis that includes interactions with local emergency services.

The Private Submitter is located approximately 6 kilometres to the north of the revised Project's proposed MHF, and due to the prevailing winds is unlikely to experience any impacts from a fire at the MHF.

As a final note, the Private Submitter's reference to the recent coal fire in Victoria in fact is a very different circumstance compared to the coal mined at the Mine. The Victorian coal fire involve the ignition of brown coal (lignite) which is the most predisposed coal to spontaneous combustion, particularly once it dries out.

5.3.19.7 Issue 7

NAC acknowledges that noise can be a difficult matter to manage given its sometimes transient nature based on local climatic conditions (i.e. in terms of its time and length of exposure), its nuisance value in relation to sleep disturbance, that different noise receptors possess different sensitivities to different noise sources, and the popular misconception that no noise from a particular noise source should be heard at all.

For the current Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate

cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day) This system was implemented early in the Mine's life and has worked well for those neighbours who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to working with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This approach to noise management was adopted by NAC to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project and has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has nominated an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will assist compliance with the new statutory noise limits and minimise the potential for adverse noise and vibration impacts at its neighbours' properties.

NAC believes the Private Submitter's claims in relation to hearing damage are erroneous for the following reasons. The *National Standard for Occupational Noise* (NOHSC 2000) states that the national standard for exposure to noise in the occupational environment is an eight-hour equivalent continuous A-weighted sound pressure level, LAeq,8h, of 85dB(A), and for peak noise, the national standard is a C-weighted peak sound pressure level, LC,peak, of 140dB(C). To experience circumstances at or above these noise exposure limits at a neighbour's residence, the corresponding noise levels at the Mine would be unbearable, particularly for an eight hour period. NAC's health and safety management system and statutory health and safety requirements would not allow these extreme circumstances. NAC's noise assessment for the revised Project has not identified any extreme noise levels at neighbour's residences. To-date, NAC's noise monitoring at neighbour's residences has never recorded Mine generated noise at these extreme levels. From a regulatory perspective, NAC would not be allowed to operate the Mine at these types of extreme noise levels. NAC would only expect that these extreme noise levels would be experienced in close proximity to its operating mining equipment (i.e. <100 metres).

In relation to the Private Submitter's claims about noise measurement, NAC ensures that all noise monitoring and assessments are conducted to current regulatory and Australian standards. NAC normally employs a noise professional to conduct this work due to its specialist nature. For the

revised Project, NAC has undertaken a series of meetings with the DEHP and OCG during the noise assessment process to ensure that baseline noise data, modelling assumptions and methodology and presentations of the findings were of an acceptable standard. NAC provides all noise data to the standards required for regulatory and other assessment.

5.3.19.8 Issue 8

For the revised Project, NAC will be removing the regular movement of heavy vehicles along the Jondaryan-Muldu Road through the cessation of the transport of product coal to the JRLF (i.e. on commissioning of the rail spur and loop and the TLF). This action will remove the Private Submitter's concerns about excessive truck movements and noise along the Jondaryan-Muldu Road. Further information on traffic noise is discussed in **Chapter 11** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.6** and **Section 5.2.3** of the AEIS.

5.3.19.9 Issue 9

NAC currently possesses strict statutory limits for blasting for vibration (5mm/s peak particle velocity for 9 out of 10 consecutive blasts and any single blast must not exceed 10mm/s) and air blast overpressure (115 db (Linear) Peak for 9 out of any 10 consecutive blasts and any single blast must not exceed 120 db (Linear) Peak). These strict statutory limits for blasting will continue to apply for the revised Project.

NAC monitors all blasts normally near sensitive receptors and based on climatic conditions (e.g. wind direction and speed) at the time of the blast to allow for the potential propagation of the air blast overpressure. NAC also informs its neighbours of a pending blast prior to the blast event.

NAC is unaware of the Private Submitter ever complaining about damage from a blast event. NAC takes these matters seriously and would follow up any such complaint in a prompt, efficient and courteous manner. NAC has outlined its complaints management protocols in a Local Stakeholder Engagement Plan, which is located in **Appendix J.18** of the draft EIS.

NAC is surprised at the Private Submitter's claims about blast damage and effects at their residence given their current separation distance of approximately 7.5 kilometres from the nearest operational mining pit. This distance will also potentially increase with the southerly progression of mining operations for the revised Project. Based on information stated in ACARP Report (C14057 Effect of Blasting on Infrastructure 2008), a vibration level of 50-70 mm/sec is normally required for light structural damage and an air blast overpressure of 140 dBL is normally required to crack highly stressed windows. NAC would expect that if the Private Submitter experienced these excessive levels at their residence many other closer neighbours would have experienced the same or even greater levels, and as a result, at the time NAC should have received numerous complaints following the excessive blast. To-date, NAC has not experienced this set of circumstances. Nonetheless, as previously stated, NAC is committed to following up all blast complaints in a prompt, efficient and courteous manner.

5.3.19.10 Issue 10

NAC understands the planned road closures will affect the trip to Acland from the Private Submitter's residence. The Private Submitter's current journey to Acland is 10 km, which at an average speed of 70 km/h would take approximately 10 minutes. Once the proposed road closures are in place the Private Submitter's journey to Acland will be 34 km, which at an average speed of 70 km/h would take approximately 30 minutes. The significance of the difference in journey distance and time will be a function of amount of times the Private Submitter travels to Acland per year. NAC will further engage with the Private Submitter to discuss this impact and a possible solution.

Trips to other major centres, such as Oakey or Jondaryan, from the Private Submitter's residence will not be impacted.

Section 5.1.6 of the AEIS provides further discussion in relation to this matter.

5.3.19.11 Issue 11

NAC acknowledges the Private Submitter's road safety issue. NAC believes the road safety issue is not related to the revised Project because the Muldu-Plainview Road and the junction of Muldu-Plainview and Oakey-Cooyar Roads are not expected to experience a significant increase in traffic numbers as a result of the revised Project. This road safety matter should be raised with the DTMR because Oakey-Cooyar Road is a State-controlled road. NAC would support any submission on the road safety matter by the Private Submitter to the DTMR.

5.3.19.12 Issue 12

NAC's mining operations possess fixed lighting around infrastructure and mobile lighting around its mining operations. Periodically, the Mine's mobile lighting may be slightly misaligned causing fugitive light issues at near neighbours. To help address this issue, NAC has provided its near neighbours with an afterhours contact number to allow immediate response and rectification. To date, this fast response methodology has proved successful and will be continued to be applied over the life of the revised Project.

NAC has not been made aware of any motorist being blinded by operational mining lights and as a serious road safety matter would respond without delay if informed of any such adverse occurrences.

The Private Submitter's statement about operational mining lights affecting the life cycles of surrounding flora appears to be deficient in evidence, particularly as no information is provided in relation to which plant species are affected and in general no scientific or other data is provided to support the claim. NAC is not aware of any negative impacts to vegetation within the Acland district as a result of an adverse lighting environment.

NAC does not expect fugitive light to be a significant issue for the revised Project. NAC understands ambient light levels will increase, but not to an intensity that will cause adverse impacts, such as sleep disturbance. NAC will undertake the necessary measures to ensure lighting efficiency is considered during the installation phase at the revised Project's MIA. The minimisation of 'light spillage' towards sensitive receptors will be a priority and will involve mitigation measures such as the use of light

shielding, the appropriate selection of equipment (e.g. illumination intensities) and the correct directional placement of lighting structures.

NAC's EA for the revised Project will possess conditions to address adverse light impacts from a nuisance perspective. NAC will continue to distribute its after-hours contact number to its near neighbours for use as a 'fast response' mechanism for managing complaints about noise and light. This complaints management strategy has proved successful for the current Mine, particularly where sleep disturbance has been involved as part of the issue. To assist the Private Submitter, NAC has outlined its complaints management protocols in a LSMP, which is located in **Appendix J.18** of the draft EIS. NAC is also committed to resolving all legitimate complaints in a prompt, efficient and courteous manner.

5.3.19.13 Issue 13

NAC is aware of the presence of *Phascolarctos cinereus* (Koala) in the vicinity of the Mine. No clearance of native vegetation will occur within the revised Project area without an appropriate wildlife inspection prior to clearance. NAC is currently in the process of developing a Standard Operating Procedure (SOP) for this requirement. This SOP will be administered as part of NAC's Environmental Management System. To-date there has been little need for this form of SOP due to the lack of wooded vegetation within the Stage 1 and 2 mining areas of the Mine (i.e. as a consequence of past agricultural activities).

NAC has established a conservation zone along Lagoon Creek within the Mine area and is committed to extending this zone along the riparian zone of Lagoon Creek within the revised Project site to improve connectivity of habitat along the creek system (i.e. as a long term objective). NAC's protection and enhancement of Lagoon Creek's riparian zone will involve the use of the same suite of native plant species that currently occur naturally along the creek system. This approach will provide the opportunity to re-establish suitable Koala habitat along the riparian zone of Lagoon Creek.

NAC is also promoting the protection of vegetation areas on site not required for operational purposes, which will further enhance available Koala habitat. NAC will also offset all significant vegetation proposed to be cleared by the operation of the revised Project under State and Commonwealth statutory requirements. NAC believes the combination of all these activities will progressively increase the quality of Koala habitat within the Acland district. The planned management of the conservation zone along Lagoon Creek for the revised Project is detailed in the CZMP provided in **Appendix J.6** of the draft EIS.

NAC has provided additional specific details in relation to the management of Koalas for the revised Project in **Section 5.1.1** and **Appendix B** of the AEIS.

5.3.19.14 Issue 14

NAC is committed to the maintenance of a safe, all weather access to Acland for the local inhabitants and general public. NAC does not believe that Anzac celebrations will be adversely impacted by the change in access arrangements to Acland (i.e. only via an upgraded Acland-Sabine Road). **Section 5.1.6** of the AEIS provides further discussion in relation to this matter.

In the draft EIS, NAC has already stated that the War Memorial will be maintained in a sound condition, including periodic restoration works to address the effects of weathering over time, and that the Tom Doherty Park will be maintained in a sound condition, including grounds management, mowing, and weed management. The TRC and local RSL Branch will be consulted in relation to the proposed management actions.

To address on-going public concerns (including the Private Submitter's), NAC has further elaborated on its planned management of Acland in **Section 5.1.7** of the AEIS and has provided an AMP in **Appendix I** of the AEIS.

In general, NAC has also demonstrated its public commitment to Acland and its residents by devising the revised Project with a protection zone around Acland to minimise the potential for adverse impacts to the air, noise and land environments. NAC is very supportive of this annual Anzac day event and will continue to support this event into the future during operation of the revised Project.

5.3.19.15 Issue 15

NAC has always conducted its community consultation in a professional, honest and open manner, regardless of the scale of the consultation event. NAC has completed a myriad of consultation actions over the life of the Mine, and in recent years, has significantly expanded its consultation effort. As part of its "social licence to operate" with the local community, NAC is committed to continuing this effort for the revised Project and has developed a SIMP, which is provided in an updated format in **Appendix E** of the AEIS.

The SIMP possesses a Community and Stakeholder Engagement Action Plan that delivers a framework to provide effective community engagement and communications mechanisms for stakeholders and community members. Key strategies that will support the implementation of this Community and Stakeholder Engagement Action Plan for the revised Project include:

- continued operation of the CRG;
- continued commitment to provide the staffed New Hope Community Information Centre at Oakey;
- ongoing stakeholder and landholder engagement;
- implementation of the LSMP (Appendix J.18 of the draft EIS);
- continued communications through the project phone line and email address;
- participation in the Oakey Community Care Group, Toowoomba Surat Basin Enterprise, Oakey Chamber of Commerce and other local groups; and
- partnerships and relationships with local educational institutions such as Oakey State High School, University of Queensland and University of Southern Queensland.

Importantly, these strategies have been developed in consultation with community members and stakeholders through meetings, ongoing feedback and the CRG. NAC will also evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC is acutely aware that it must earn and maintain its "social licence to operate" with the local community and is clearly focussed on achieving this outcome. For example, NAC has made many compromises in developing the revised Project. NAC understands that these compromises were essential to address community and government concerns and to regain its "social licence to operate" with the local community. Similarly, in keeping with leading practice, NAC has elevated its community support base through significant donations to local organisations (e.g. Careflight) and through the provision of a community support fund.

In addition, NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more open and transparent approach with the community in relation to its proposed future operation of the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.19.16 Issue 16

Across all regions, the revised Project will directly support approximately $6.6 billion in economic output from construction / capital and operational expenditure. Direct employment for the revised Project is estimated at 109 FTEs on average during construction and 412 FTEs on average during operation. Total employment benefits per year, including direct, indirect and induced impacts are estimated at 468 FTEs per year on average from construction / capital expenditure and 3,082 FTEs per year on average during operation.

Economic benefits were estimated for output, value added, employment and household income, and showed that the revised Project will potentially contribute to the on-going economic growth in the Darling Downs (which has historically been lower than the Queensland average). Household income benefits may also contribute to increasing the median household income in the Study area which has traditionally been below the Queensland average. An increase in household income benefits is helpful as it normally creates a positive flow-on effect through increased local expenditure.

From a negative perspective, a reduction in agricultural output valued at $29.6 million over the life of the revised Project was identified. This represents a direct employment impact of approximately 5 FTEs per year. It is expected that rehabilitation during de-commissioning would return the majority of impacted land to a state suitable for agricultural production by the APC, and therefore, impacts are expected to cease beyond that point.

NAC has completed an extensive level of economic assessment for the revised Project, which is supplied in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

In summary, NAC believes the economic evidence supports the operation of the revised Project (i.e. the positive benefits outweigh the negative impacts). From a practical perspective, the Mine has

allowed local farmers to supplement their farm income through part-time work opportunities, which has been important during tough agricultural conditions (e.g. drought). NAC's acquisition of properties where farming enterprises were struggling has allowed those families to advance their circumstances and achieve a better lifestyle. Finally, the APC continues to provide job opportunities in agriculture through direct employment and the use of contractors.

5.3.19.17 Issue 17

NAC's water supply requirements are outlined in **Table 5-17** of the draft EIS. NAC developed a water balance model for the revised Project, which is detailed in **Section 5.13.4** of the draft EIS. This information should correct many of the Private Submitter's misconceptions around the revised Project's proposed water use.

In response to one of the Private Submitter's concerns, deep and shallow groundwater bores were not considered in the revised Project's water balance. The water balance developed for the revised Project only included the output from groundwater modelling, which varies over the life of mine. No inputs from groundwater bores were considered in the water balance due to their minimal and infrequent use as a result of the preferential use of recycled water from the Wetalla Wastewater Reclamation Facility (WWRF). It should be noted that shallow groundwater bores are used to supply potable water to the site. This supply is generally low, well below NAC's legal allocation and should be sufficient to meet the future potable water demands of the revised Project.

Importantly, NAC understands that the Eastern Downs area of the Great Artesian Basin is under great stress from many years of over allocation and like other users of groundwater in the area has had a majority of its allocations reduced. NAC commissioned the Wetalla water pipeline for the permanent supply of recycled water to allow 'drought-proofing' of the Mine and the development of the revised Project, which has provided the added advantage of relieving some of the stress experienced by the main deep aquifers of the Eastern Downs area of the Great Artesian Basin (i.e. the Marburg (Hutton) Sandstone and Helidon (Precipice) Sandstone aquifers).

The use of recycled water by the Mine and in the future by the revised Project demonstrates a proactive approach by NAC to improving the sustainability of its mining operations through the provision of positive environmental, social and economic benefits to the TRC region for a substantial period that will be commensurate with the revised Project's operation. For example, from an environmental perspective, the use of recycled water by NAC is a beneficial use of a waste product under the *Environmental Protection (Waste Management) Regulation 2000* and allows NAC's mining operations to be well prepared for the potential effects of climate change on water supply without applying pressure to other water users in the Acland district. From a social and economic perspective, NAC's purchase of recycled water is providing a significant revenue stream to the TRC, which will benefit the whole community within the TRC area.

In response to the Private Submitter's concerns about water quality, Class A+ recycled water is being produced by the WWRF Micro Filtration and Chlorination Plant for use at the Mine. The Class A+ recycled water produced by the WWRF is classified under the Queensland Water Recycling Guidelines (EPA 2005) in relation to a range of microbiological parameters (e.g. E. coli and other bacterial forms) and physical and chemical parameters (e.g. turbidity and conductivity).

The Class A+ recycled water is discharged onsite to Raw Water Dams 1 and 2 for the purposes of coal washing, dust suppression and fire fighting. The Mine's potable water supply will continue to be fully supplied using Basalt bore water treated by an onsite reverse osmosis plant.

Class A+ recycled water is widely used in other areas of Queensland. For example, the Gold Coast dual reticulated homes regions use the same high quality recycled water for non-drinking purposes. Aerated contact with Class A+ recycled water is suitable in both home and work environments and is commonly used for:

- general watering and irrigation of gardens;
- irrigation of food crops;
- car washing and external house washing;
- fire fighting;
- construction and building purposes; and
- dust suppression.

The Class A+ recycled water received by the Mine is continually tested on line at the WWRF by the TRC prior to arriving onsite. If testing at the WWRF demonstrates that the discharge water does not meet the standard for Class A+ recycled water, treatment of the water is either immediately adjusted or pumping is stopped until further testing demonstrates that the water meets the Class A+ recycled water criteria. To further prevent bacteriological and algae growth during transport along the 46 kilometre water pipeline, the recycled water is chlorinated at the main pump station at the WWRF.

Further testing of the Raw Water Dams 1 and 2 has indicated that the Class A+ recycled water is superior to the bore water sources that it has replaced, both from health and operational standpoints. To ensure all Mine employees are aware of the Class A+ recycled water's distribution, NAC has erected signage at the main usage points, such as throughout the CHPP's water reticulation system, the heavy vehicle wash down bay, the mobile equipment workshop and the administration fire fighting system.

From a risk management perspective, NAC is confident in the safe use of Class A+ recycled water from the WWRF for the range of non-drinking purposes at the Mine and in the future for the revised Project and by the APC for agricultural purposes. For noting, the lining of the APC's irrigation water supply dam is standard leading practice to minimise the loss of water through infiltration, and not because of concerns about water quality and the possible escape of this water to the surrounding environment.

In response to the Private Submitter's comment, NAC is unaware of any promises made to neighbours in the past in relation to the supply of water. In addition, the Mine has always operated on a tight water balance, and therefore, has never been in a position to supply excess water. The tight water balance is the main reason why NAC sought purchase of recycled water from the TRC (i.e. for long term security of water supply for its mining operations).

In relation to the Private Submitter's claims about rainwater quality in their tanks, NAC has conducted rainwater tank sampling in close proximity to the Mine during 2007 and 2009 and has concluded that

the Mine is not impacting on the quality of captured rainwater. The results of this sampling are provided in presented in **Appendix G.6.5** of the draft EIS. Further discussion around this issue for the revised Project is provided in **Section 9.4.5** of the draft EIS.

NAC believes based on the current air quality modelling for the revised Project that the risk of adverse impact to the Private Submitter's rainwater is negligible. Regardless, NAC is committed to sampling of water quality in rainwater tanks should air quality monitoring exceed the air quality objectives in the EPP (Air) or the dust nuisance goals, or if the Private Submitter raises a complaint in relation to the matter. NAC's management of complaints is outlined in the LSMP provided in **Appendix J.18** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.20 Private Submitter 285

5.3.20.1 Issue 1

NAC has always conducted its community consultation in a professional, honest and open manner, regardless of the scale of the consultation event. NAC has completed a myriad of consultation actions over the life of the Mine, and in recent years, has significantly expanded its consultation effort. As part of its "social licence to operate" with the local community, NAC is committed to continuing this effort for the revised Project and has developed a SIMP, which is provided in a revised format in **Appendix E** of the AEIS.

The SIMP possesses a Community and Stakeholder Engagement Action Plan that delivers a framework to provide effective community engagement and communications mechanisms for stakeholders and community members. Key strategies that will support the implementation of this Community and Stakeholder Engagement Action Plan for the revised Project include:

- continued operation of the CRG;
- continued commitment to provide the staffed New Hope Community Information Centre at Oakey;
- ongoing stakeholder and landholder engagement;
- implementation of the LSMP (**Appendix J.18** of the draft EIS);
- continued communications through the project phone line and email address;
- participation in the Oakey Community Care Group, Toowoomba Surat Basin Enterprise, Oakey Chamber of Commerce and other local groups; and
- partnerships and relationships with local educational institutions such as Oakey State High School, University of Queensland and University of Southern Queensland.

Importantly, these strategies have been developed in consultation with community members and stakeholders through meetings, ongoing feedback and the CRG. NAC will also evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC is acutely aware that it must earn and maintain its "social licence to operate" with the local community and is clearly focussed on achieving this outcome. For example, NAC has made many compromises in developing the revised Project. NAC understands that these compromises were essential to address community and government concerns and to regain its "social licence to operate" with the local community. Similarly, in keeping with leading practice, NAC has elevated its community support base through significant donations to local organisations (e.g. Careflight) and through the provision of a community support fund.

In addition, NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more open and transparent approach with the community in relation to its proposed future operation of the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community.

5.3.20.2 Issue 2

NAC has conducted an extensive amount of assessment work for the revised Project's draft EIS in relation to the key environmental values of air quality, noise and vibration, surface water, groundwater, land management, transport and traffic and nature conservation. This assessment work has included conservative modelling to predict the zone of potential impact (i.e. under a worst case scenario), extensive field and other surveys of certain parameters to provide accurate baseline and other data, and the development of mitigation strategies to manage the predicted impacts, including specific management plans.

In addition, NAC undertook regular meetings with the main government agencies for each of the key environmental values during development of the draft EIS to ensure:

- the baseline data and other assessment information was suitable;
- the assessment methodology was acceptable and correct; and
- the presentation of the findings, results and conclusions were in a suitable format.

NAC believes the information provided in the draft EIS is scientifically based, accurate and comprehensive. Therefore, based on the information provided in the draft EIS and the experience gained operating the Mine within the Acland district over the previous 12 years, NAC believes it possesses a good understanding of the revised Project's potential impact zones for the various key environmental values and has developed suitable and robust mitigation measures to adequately manage the potential impact zones.

In relation to the Private Submitter's concerns, NAC does not believe based on current scientific evidence that the revised Project will have a significant impact on any of the key environmental values within the township of Oakey. The stated scientific evidence is located in **Chapters 4**, **5**, **6**, **9**, **11** and **15** of the draft EIS. NAC also believes it will comply with all the proposed statutory limits for the revised Project within township of Oakey.

NAC questions the validity of the Private Submitter's concerns without the provision of supporting scientific evidence. Similarly, NAC believes the Private Submitter's suggested solution is not based on a legitimate impact assessment process or scientific evidence, and therefore, is not practical, reasonable or applicable to the operation of the revised Project.

5.3.20.3 Issue 3

During September 2012, in response to concerns around dust nuisance, the DSITIA completed air quality monitoring within the Brisbane suburb of Tennyson along the Metropolitan rail line to the Port of Brisbane (http://www.ehp.qld.gov.au/air/pdf/tennyson-dust-report.pdf). Further more comprehensive monitoring was undertaken during March and April 2013 and then again during May 2013 at six locations along the rail line of the South West System (SWS) (Oakey, Willowburn (Toowoomba), Dinmore, Tennyson, Fairfield and Coorparoo) and one background location on a section of the Metropolitan rail system not used by coal trains (Chelmer). The two-stage monitoring during 2013 was to assess air quality without and then with veneering of coal in rail wagons from the JRLF (DSITIA 2013).

In all cases, ambient PM_{10} and $PM_{2.5}$ concentrations did not exceed the EPP (Air) 24-hour average air quality objectives of 50 µg/m^3 and 25 µg/m^3 respectively on any days during each monitoring period. The PM_{10} and $PM_{2.5}$ concentrations measured at the monitoring sites located on the SWS differed little from those measured at DSITIA's ambient monitoring network sites in Brisbane. Furthermore, coal dust represented no more than 20% of dust deposited. The effect of veneering was not clear, masked by wet weather. Thorough coal washing appears to have limited coal dust emissions. The most recent report concluded a low risk of health impacts from coal dust, either within or outside the rail corridor, although there may be a potential for short term nuisance impacts from dust deposition (DSITIA 2013) These results are consistent with findings from a 2008 Queensland Rail study in Central Queensland (Connell Hatch, 2008). The final reports for this air quality monitoring program are provided at https://www.ehp.qld.gov.au/management/coal-dust/monitoring.html.

Coal Dust Management Plans (CDMPs) have been developed for both rail systems to address perceived and nuisance impacts (QR Network 2010, SWS User Group 2013). The SWS User Group CDMP proposed improved management practices including veneering at all coal loadout facilities by December 2013. NAC as member of the SWS User Group has insured that it has completed all the applicable actions from the CDMP.

To monitor the performance of the SWS User Group CDMP, continuous real-time air quality monitoring has been set-up by the Queensland government along the South West Rail System. The results from this target monitoring program has been successful in independently demonstrating that no significant coal dust issues currently exist in relation to coal transport along the South West Rail System. This data may be viewed at https://www.ehp.qld.gov.au/air/data/search.php.

NAC proposes to construct a new TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering and profiling system. The TLF's design expects to reduce potential coal dust emissions further, for example, through the use of a hopper feed to directly create the correct profile and prevent overloading. These actions were key long term recommendations from a recent report on the review of dust from coal trains in Queensland,

presented to the Senate Standing Committee on Community Affairs Inquiry "The impacts on health of air quality in Australia", during 2013 (QRC 2013).

The revised Project will result in up to an additional 27 weekly rail movements along the SWS to QBH. Additional rail movements from the revised Project are unlikely to increase fugitive coal dust emissions along the rail corridor due to the implementation of the CDMP and the advanced TLF. The revised Project is not expected to result in exceedances of the ambient air quality objectives in the EPP (Air). Importantly, ongoing rail coal dust monitoring of the SWS is planned by the DSITIA (DSITIA 2013). Further discussions on this matter are provided in **Section 9.4.5** of the draft EIS.

In terms of physical properties, NAC's coal products possess one of the highest hardness ratings, and as a result, produce significantly reduced levels of dustiness, particularly when compared to the coals mined in the Bowen Basin of central Queensland. For example, tests conducted during 2011 by NAC of the product coal stockpiles at the JRLF indicates the average silt content is 0.4%, which represents a significantly lower value compared to other coal types in Queensland (e.g. 5-10%). This physical property is a trait of Surat and West Moreton Basin derived coals. In addition, NAC's coal products are transported in a washed state, and therefore, possesses a moisture level of approximately 10%. The combination of these physical attributes helps minimise the potential for dust generation from NAC's coal products.

In relation to the efficacy of the use of wagon lids, Connell Hatch as part of its work completed for the Queensland Rail Environmental Evaluation conducted an analysis of the feasibility, practicability and cost-effectiveness of either retrofitting wagon lids to the existing rail fleet or redesigning rail wagons to incorporate a lid across the central Queensland coal network. Connell Hatch reported that wagon lids are used in the transport of some materials in northern Queensland and in the transport of coal in North America where very cold conditions, snow and ice can adversely affect the coal (QRC 2013).

While Connell Hatch found that wagon lids are likely to substantially reduce coal dust emissions from wagons, it was acknowledged that there were many potential adverse operational impacts and costs associated with implementing wagon lids that cannot be estimated without a thorough detailed investigation. The major disadvantages of introducing wagon lids include:

- large operating cost (retrofitting only);
- modifications to all loading and unloading facilities (i.e. in terms of time, practicality and cost); and
- ramifications of lid failure (QRC 2013).

The preliminary work presented in the environmental evaluation suggests that wagon lids are unlikely to be a feasible solution in the short term (QRC 2013).

Therefore, NAC believes the Private Submitter's suggested solution of covering coal wagons is currently not a viable solution based on the associated disadvantages and the fact there is no evidence from independent air quality of a significant impact along the SWS. In addition, NAC believes using current scientific evidence that the cumulative dust impacts associated with the operation of the revised Project and its associated coal transport are unlikely to significantly affect the local or regional airshed.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.20.4 Issue 4

In relation to the Private Submitter's concerns about groundwater use, NAC understands that the Eastern Downs area of the Great Artesian Basin is under great stress from many years of over allocation and like other users of groundwater in the area has had a majority of its allocations reduced. NAC commissioned the Wetalla water pipeline for the permanent supply of recycled water to allow 'drought-proofing' of the Mine and the development of the revised Project, which has provided the added advantage of relieving some of the stress experienced by the main deep aquifers of the Eastern Downs area of the Great Artesian Basin (i.e. the Marburg (Hutton) Sandstone and Helidon (Precipice) Sandstone aquifers).

The use of recycled water by the Mine and in the future by the revised Project demonstrates a proactive approach by NAC to improving the sustainability of its mining operations through the provision of positive environmental, social and economic benefits to the TRC region for a substantial period that will be commensurate with the revised Project's operation. For example, from an environmental perspective, the use of recycled water by NAC is a beneficial use of a waste product under the *Environmental Protection (Waste Management) Regulation 2000* and allows NAC's mining operations to be well prepared for the potential effects of climate change on water supply without applying pressure to other water users in the Acland district. From a social and economic perspective, NAC's purchase of recycled water is providing a significant revenue stream to the TRC, which will benefit the whole community within the TRC local government area.

In response to the Private Submitter's concerns about water quality, Class A+ recycled water is being produced by the WWRF Micro Filtration and Chlorination Plant for use at the Mine. The Class A+ recycled water produced by the WWRF is classified under the Queensland Water Recycling Guidelines (EPA 2005) in relation to a range of microbiological parameters (e.g. E. coli and other bacterial forms) and physical and chemical parameters (e.g. turbidity and conductivity).

The Class A+ recycled water is discharged onsite to Raw Water Dams 1 and 2 for the purposes of coal washing, dust suppression and fire fighting. The Mine's potable water supply will continue to be fully supplied using Basalt bore water treated by an onsite reverse osmosis plant.

Class A+ recycled water is widely used in other areas of Queensland. For example, the Gold Coast dual reticulated homes regions use the same high quality recycled water for non-drinking purposes. Aerated contact with Class A+ recycled water is suitable in both home and work environments and is commonly used for:

- general watering and irrigation of gardens;
- irrigation of food crops;
- car washing and external house washing;
- fire fighting;

- construction and building purposes; and
- dust suppression.

The Class A+ recycled water received by the Mine is continually tested on line at the WWRF by the TRC prior to arriving onsite. If testing at the WWRF demonstrates that the discharge water does not meet the standard for Class A+ recycled water, treatment of the water is either immediately adjusted or pumping is stopped until further testing demonstrates that the water meets the Class A+ recycled water criteria. To further prevent bacteriological and algae growth during transport along the 46 kilometre water pipeline, the recycled water is chlorinated at the main pump station at the WWRF.

Further testing of the Raw Water Dams 1 and 2 has indicated that the Class A+ recycled water is superior to the bore water sources that it has replaced, both from health and operational standpoints. To ensure all Mine employees are aware of the Class A+ recycled water's distribution, NAC has erected signage at the main usage points, such as throughout the CHPP's water reticulation system, the heavy vehicle wash down bay, the mobile equipment workshop and the administration fire fighting system.

From a risk management perspective, NAC is confident in the safe use of Class A+ recycled water from the WWRF for the range of non-drinking purposes at the Mine and in the future for the revised Project and by the APC for agricultural purposes.

NAC's surface water management is based on protection of the downstream receiving environment and is designed to ensure all discharges comply with the revised Project's strict statutory discharge limits. NAC will expand its already extensive surface water monitoring regime as a critical tool for the purposes of impact identification, compliance assessment and complaints management.

NAC's surface water management on site is designed to minimise the potential for offsite discharge by the use of an efficient capture and containment strategy and the preferential use of captured surface water for dust suppression and other mine related purposes to maintain an adequate design storage allowance for the wet season (i.e. to minimise the risk of off site discharges). Detail on a range of surface water management measures for the revised Project, including the use of dams, is provided in **Section 5.14.2** of the draft EIS. Additional surface water management information is also provided in NAC's Water Resources Management Plan for the revised Project located in **Appendix J.4** of the draft EIS.

NAC has completed water balance modelling for the revised Project demonstrates to understand the risk of discharge from the life of operations of revised Project. Further details on the revised Project's water balance can be located in **Section 5.13.4** of the draft EIS. NAC maintains an operational water balance model as part of its day-to-day operations to assist general water management. This practice will continue over the life of the revised Project.

From a regulatory perspective, NAC's EA for the revised Project will possess strict conditions designed for the protection of the local surface water and groundwater environments. The revised Project's surface water EA conditions as a minimum will include discharge limits for key water quality parameters, specification of discharge points, require quantification of background limits for key water quality parameters, require update of the site's water management plan and specify monitoring

requirements for offsite discharges. In addition, a comprehensive range of EA conditions will be dedicated to tailings management and will focus on all stages of development, including design and construction, general operation and future rehabilitation.

The revised Project's groundwater EA conditions will concentrate on the protection of the local aquifers, in particular the basalt and coal seam aquifers. The groundwater EA conditions will be based on the detection and prevention of drawdown (levels) and water quality impacts. NAC has recently completed a detailed study following several years of investigations to quantify background limits for key groundwater quality parameters.

The DEHP will be responsible for the regulation of the revised Project's EA. NAC will expand its extensive surface water and groundwater monitoring networks ahead of the revised Project to ensure that a suitable system is established for the early identification of potential adverse impacts and to assist with complaints management.

Finally, in relation to the Private Submitter's claims around toxic dams, NAC monitors all water bodies at the Mine on a regular basis and will continue this practice for the revised Project. NAC has not identified any toxic water bodies at the Mine during the past 12 years of operation. NAC also monitors a number of its near neighbour's dams, and again, has not identified any toxic water bodies.

NAC manages hydrocarbons (e.g. fuels and oils) in a responsible manner using a variety of recognised management measures (e.g. bunding, spill capture devices and standard operating procedures for associated work practices). For additional information, please refer to the Waste Management Plan in **Appendix J.13** of the draft EIS. Acid rock drainage does not occur at the Mine and based on the same geology is not expected to occur over the life of the revised Project. Unlike a metalliferous mines (e.g. gold mines), coal mines do not apply significant quantities of hazardous chemicals during the processing phase (e.g. cyanide). In general, coal mines only use small quantities of hazardous materials, which are easily managed using standard practices. The types and quantities of hazardous materials that may be used by the revised Project are outlined in **Chapter 18** of the draft EIS.

Therefore, NAC disagrees with the Private Submitter's stated concerns and rejects the suggested solutions.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.20.5 Issue 5

NAC will fund all planned changes required to the local road and rail network as a result of the revised Project's implementation and operation. This commitment would be a major expectation of the regulatory authorities who control the potentially affected road and rail networks.

In addition, NAC has completed an extensive traffic assessment for the construction and operational phases of the revised Project, which includes:

- increased vehicle movements on the existing road network associated with the revised Project's workforce;
- materials supply during the construction and operational phases;
- altered traffic patterns and journey times resulting from permanent road relocations; and
- a series of practical mitigation measures for both the construction and operational phases.

This work is provided in **Chapter 13** of the draft EIS. Post submission of the draft EIS, additional traffic assessments have also been completed in consultation with the DTMR. The results of the additional assessments are located in **Section 5.1.6** and **Section 5.2.3** of the AEIS.

NAC believes that it understands the potential traffic impacts from the revised Project and possesses suitable mitigation measures for the identified impacts. NAC is committed to realigning the Jondaryan-Muldu Road, upgrading the Acland-Sabine Road, establishing a new light vehicle access off the Oakey-Cooyar Road, constructing a rail spur and balloon loop to connect the revised Project to the SWS, and the upgrade of various intersections and rail crossings. NAC will work closely with the applicable State and local government regulatory authorities (e.g. DTMR, TRC, and QR National) and ensure that all the necessary post-EIS planning approvals are obtained (including the development of the necessary road or rail management plans). As required, NAC will undertake the necessary community consultation in advance of each of the planned transport related works.

NAC believes the Private Submitter's suggested solution is unreasonable given the body of work completed for the revised Project around transport matters and the lack of evidence provided to support the Private Submitter's claims.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.20.6 Issue 6

NAC currently employs approximately 300 people at the Mine. Employment for the revised Project is expected to average around 412. A significant number of indirect jobs will also continue to be created through the use of local support industries and through local expenditure as part of day-to-day living by NAC's employees, who on average generally possess a higher household income.

NAC's total expenditure over the life of the revised Project is estimated at $6.6 billion. The equivalent loss of agricultural value during the same period is estimated at $29.6 million. Therefore, from a pure economic perspective, the revised Project possesses a significant benefit despite the short term loss of agricultural production. Explanation around the development of these figures is located in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

Importantly, as a result the NHG's sustainability vision and holistic approach to land management within the Acland district, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and

agricultural production at the cessation of mining in the Acland district. The APC as a larger farming business in the Acland district will also possess the advantage of 'economies of scale' through the amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends within the agricultural sector (Hooper et. al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

Therefore, NAC disagrees with the Private Submitter's assertions around employment and farming and believes the suggested solution is unreasonable given the current economic and employment predictions for the revised Project, the lack of statutory grounds for government involvement and the absence of objective evidence. The Private Submitter's alternative solution may be a viable post mining land use, but would require additional investigations to establish a full business case for consideration by NAC.

5.3.20.7 Issue 7

NAC disagrees with the Private Submitter's assertions that the Mine has caused the mass closure of local businesses in Oakey and that the cessation of mining operations would return confidence to the rural sector. These assertions are simplistic, lack any supporting evidence and fail to acknowledge the potential myriad of other influencing factors (e.g. general competitive market forces, change in personal circumstances of the owners, retirement status of the owners, etc.). NAC also questions the link between some of the business that have closed and operation of the Mine (e.g. Sullivan Nicolas Pathology). The general trend for people to live in Toowoomba because of its associated benefits as a major regional centre may be an influencing factor through its flow on effects to customer demographics. The Household income status of the Oakey population would affect the level of disposable income, which in turn may negatively influence the level of demand for certain businesses, particularly those businesses not delivering essential goods and services. Other Oakey businesses, such as nurseries, may have been the victim of the drought years when people probably made a conscious decision not to garden as frequently or intensely. An important fact may be the close proximity of Oakey to Toowoomba. People may generally opt to conduct their business in Toowoomba because of its broader range of goods and services, which would negatively influence the demand for certain goods and services within Oakey (e.g. IGA).

In general, NAC is unaware of any businesses that have closed in Oakey as a result of the Mine's operation. NAC continues to support local businesses directly and indirectly, and currently spends $110 million annually within the Darling Downs. NAC will continue its preferential use of local businesses and suppliers for the revised Project (i.e. based on an assumption of competitive pricing). NAC is directly aware that a number of Oakey businesses are doing well as a result of the Mine and that these circumstances will continue and expand for the revised Project. Examples of Oakey businesses that have benefited from the Mine, include accommodation, food services, fuel supply, and vehicle sales and servicing.

In relation to returning confidence to the rural sector, NAC believes this is a board and complex matter. Some of the major issues facing rural communities that must be addressed to return confidence to the sector are:

- an aging and declining population;
- the migration of young people and families from the land to the cities in pursuit of improved work, education, and lifestyle opportunities;
- the rural gender imbalance of more males than females, which possesses social implications;
- the poor level of services (e.g. health);
- low job security and future employment prospects;
- a lack of industry diversification;
- economic factors (e.g. commodity prices); and
- government policy (e.g. free trade agreements) (ANU 2012).

It is NAC's belief that the Private Submitter has simplified this issue and incorrectly blamed the Mine and revised Project. Finally, NAC believes these complicated issues raised by the Public Submitter are well outside the approved ToR for the revised Project. NAC's public consultation strategy will provide opportunities for future discussions in relation to this matter. Further details on NAC's public consultation strategy can be located in **Appendices J.14** and **J.18** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.20.8 Issue 8

The issues raised by the Private Submitter in relation to the QR Code of Practice for Railway Management 2007 are solely a matter for the Queensland government. NAC was not responsible for the original development or the implementation of the QR Code of Practice for Railway Management 2007 in Queensland. NAC suggests that the Private Submitter raise their issues with the relevant government departments or their local member of State Parliament.

5.3.20.9 Issue 9

The Community Liaison Officer and CRG are key initiatives undertaken by NAC in recent years to improve its community engagement strategy. To-date, both initiatives have proved highly successful and are continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

The current Chairperson of the CRG is a local landholder and neighbour of the Mine. The CRG members include representatives from:

- TRC;
- Local landholder representatives;

- Agforce;
- Health;
- Education;
- Business;
- Emergency Services;
- Environment (e.g. Landcare);
- Aboriginal and Torres Strait Islander community;
- Regional communities surrounding the mine, including Jondaryan; and
- NHG.

For further information on NAC's proposed social impact management (including community engagement strategy) for the revised Project, refer to **Sections 5.1.9 and 5.1.10** and **Appendix E** of the AEIS. For additional information in relation to this issue, please also refer to **Section 5.3.20.1** of the AEIS.

NAC has conducted a number of open community consultation events (public information days) in Oakey for the Mine and revised Project over the past few years. In general, these open community consultation events have offered an opportunity for the public to interact with NAC and NHG staff and obtain first-hand information about key aspects of the Mine and revised Project.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21 Private Submitter 286

5.3.21.1 Issue 1

NAC has conducted dust deposition, surface water, groundwater, PM_{10} and noise monitoring at the Private Submitter's residence. A majority of this monitoring has been conducted on a regular basis since the Mine commenced operations in 2002. To-date, the Mine's operations have remained compliant with the applicable statutory limits for the various environmental parameters monitored or no evidence of adverse impacts have been demonstrated through regular monitoring of the stated environmental parameters.

For the revised Project, NAC has modelled the key environmental parameters of noise, air quality and groundwater at the beginning, around the middle and towards the end of its operational life. This modelling was based around long term mine plans for the revised Project and included the operation of the MHF. The various models used specific assumptions and inputs to ensure that outputs were conservative for impact assessment purposes (i.e. they represented 'worst case' scenarios). Importantly, the various air quality and noise models completed for the revised Project failed to identify any significant impacts at the Private Submitter's residence.

This result was not unexpected because the Private Submitter's residence is approximately 5.7 kilometres to the north-northwest of the Mine's MIA and the general prevailing winds are normally from an easterly direction for most of the year. In addition, the revised Project's active mining operations are moving further away from the Private Submitter's residence.

Therefore, NAC disagrees with the Private Submitter's assertion that the noise and air quality environment at their residence will deteriorate significantly during the revised Project's operation.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21.2 Issue 2

NAC disagrees with the Private Submitter's prediction of the noise environment at their property during the operation of the revised Project. No objective evidence is provided to support the Private Submitter's claim.

Nevertheless, NAC acknowledges that noise can be a difficult matter to manage given its sometimes transient nature based on local climatic conditions (i.e. in terms of its time and length of exposure), its nuisance value in relation to sleep disturbance, that different noise receptors possess different sensitivities to different noise sources, and the popular misconception that no noise from a particular noise source should be heard at all.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life and has worked well for those neighbours who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to working with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This approach to noise management was adopted by NAC to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project and has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and

Appendix J.11 of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has nominated an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will assist compliance with the new statutory noise limits and minimise the potential for adverse noise and vibration impacts at its neighbours' properties.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21.3 Issue 3

NAC strongly disagrees with the Private Submitter's claim that NAC has lied in the past. The information provided to the Private Submitter during November 2012 in relation to mining around Acland was based on the best possible evidence available at the time, particularly as the information pre-dated the revised Project's EIS ToR and EIS processes.

Subsequent noise assessment completed for the revised Project's EIS during 2013 now better defines the operational footprint for the revised Project with the Manning Vale West Pit approximately 2 kms from Acland at its closest operational point, the Manning Vale West Pit approximately 1 km from Acland at its closest operational point, and the Willeroo Pit approximately 2 km from Acland at its closest operational point. These buffer distances were developed to maximise the revised Project's opportunity for resource recovery while minimising the potential for noise impacts within Acland and were based on:

- noise modelling at key stages of the revised Project's operations;
- conservative modelling assumptions and inputs to generate 'worst case' scenario situations for impact assessment purposes;
- more stringent operational noise levels;
- full attenuation of the main mining equipment on-site;
- real-time noise monitoring; and
- adaptive noise management actions based on the results of the real-time noise monitoring that involves the cessation, reduction or relocation of the identified nosier mining operations.

As a consequence of the draft EIS's noise assessment, NAC believes it will be able to generally operate the Manning Vale West and Willeroo Pits on a 24 hour basis and the Manning Vale East Pit on a 12 hour basis (daytime only). There may be periods during the year based on ambient conditions (climate and the current mine plan) that the Manning Vale East Pit will be able to be operated at night and that the night-time operations of the Manning Vale West may need to be modified. As stated, the operational status of all mine pits will be controlled by real-time noise monitoring and adaptive management protocols.

NAC has developed a Noise and Vibration Management Plan for the revised Project and will be administered as an accompanying document to the revised Project's Plan of Operations. The Noise and Vibration Management Plan is provided in **Appendix J.11** of the draft EIS. Further information around noise matters is also provided in **Chapter 11** of the draft EIS.

NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more open and transparent approach with the community in relation to its proposed future operation of the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community.

NAC trusts this information provided in relation to the development of the buffers around Acland will alleviate any concerns. In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21.4 Issue 4

NAC in response to community and government concerns made significant changes to the original proposal to produce the current mining proposal for the revised Project. The NHG understood that this modification was critical in the process to regain and maintain its "social licence to operate" on the Darling Downs, regardless of the economic cost.

As part of the revised Project's new operational footprint, Acland and a surrounding buffer zone were removed from the proposed mine areas and converted to a non-operational area (i.e. free from any mining disturbance). This action was designed to ensure that Acland remained open to the public, the remaining Acland residents were able to undertake their normal daily routine, and that items such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery, were protected in perpetuity.

NAC currently owns the Acland No.2 Colliery and will take ownership of the Tom Doherty Park on grant of ML 50232 for the revised Project (i.e. part of a Compensation Agreement with the DEHP).

To further demonstrate its commitment to the long term maintenance of Acland, NAC has developed an AMP, which outlines the proposed management actions to ensure the protection, maintenance and possible enhancement of items, such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery. The AMP is provided in **Appendix I** of the AEIS. Further public consultation is planned as a component of the implementation of the AMP. NAC also possesses a specific management plan for the protection, maintenance and enhancement of the Acland No.2 Colliery. This document is provided in **Appendix J.12** of the draft EIS.

Therefore, NAC is committed to the long term management of Acland and its significant items. In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide

more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21.5 Issue 5

The accusations raised by the Private Submitter potentially span 13 years and are provided with no evidence or context and little detail to genuinely understand and address the issues. A number of the statements are incorrect, for example, the reference to a proposal by NAC to put a rail through the Private Submitter's property. Importantly, NAC believes a majority of matters are outside the approved ToR, and therefore, are not relevant to the revised Project (e.g. the reference to the court cases).

In relation to the health matter, NAC has a legal agreement with the Private Submitter as an outcome of the approvals process for Stage One of the Mine that commits NAC to various monitoring tasks at the Private Submitter's property. As part of the legal agreement, NAC has undertaken various positive actions at the Private Submitter's property (i.e. at NAC's cost). The legal agreement also provides a mechanism of resolution for addressing specific issues, such as health problems.

To date, the Private Submitter has not provided NAC with any evidence of health problems that have been caused by the Mine's operation or invoked the legal agreement's process in regard to managing health issues. Importantly, if legitimate issues are raised by the Private Submitter in relation to NAC's mining operations, NAC would respond accordingly to resolve the issues in an amicable manner and with the agreement of the Private Submitter.

In addition, the extensive range of air quality and noise monitoring conducted regularly at the Private Submitter's residence since the commencement of operations at the Mine has failed to identify any significant issues.

NAC has demonstrated that it is committed to working with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This approach to noise management was adopted by NAC to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

NAC encourages the Private Submitter to contact the Mine as soon as possible if they are experiencing any issues. NAC is committed to addressing legitimate concerns about its mining operations, particularly with its near neighbours. NAC has provided a range of management plans in the draft EIS to allow the public to better understand how it intends to manage those important areas of potential environmental concern. NAC has also included a LSMP, provided in **Appendix J.18** of the draft EIS, to explain its engagement strategy for neighbours and others parties (e.g. in relation to managing a complaint). This information is provided in an effort to be as open and transparent as possible with the interested public.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.21.6 Issue 6

NAC will take ownership of the Tom Doherty Park on grant of ML 50232 for the revised Project as a result of an existing Compensation Agreement with the DEHP. NAC is committed to the long term protection, maintenance, and where possible, enhancement of Acland, which includes the Tom Doherty Park and the Acland War Memorial. To further this commitment, NAC has developed an AMP, which outlines the proposed management actions to achieve these goals and objectives. NAC will fund these management actions and seek further input from the local public through additional planned consultation. The AMP is provided in **Appendix I** of the AEIS.

NAC is committed to the long term management of Acland and its significant items. In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22 Private Submitter 292

5.3.22.1 Issue 1

NAC is committed to continuing this effort for the revised Project and has developed a SIMP, which is provided in a revised format in **Appendix E** of the AEIS.

The SIMP possesses a Community and Stakeholder Engagement Action Plan that delivers a framework to provide effective community engagement and communications mechanisms for stakeholders and community members. Key strategies that will support the implementation of this Community and Stakeholder Engagement Action Plan for the revised Project include:

- continued operation of the CRG;
- continued commitment to provide the staffed New Hope Community Information Centre at Oakey;
- ongoing stakeholder and landholder engagement;
- implementation of the LSMP (**Appendix J.18** of the draft EIS);
- continued communications through the project phone line and email address;
- participation in the Oakey Community Care Group, Toowoomba Surat Basin Enterprise, Oakey Chamber of Commerce and other local groups; and
- partnerships and relationships with local educational institutions such as Oakey State High School, University of Queensland and University of Southern Queensland.

Importantly, these strategies have been developed in consultation with community members and stakeholders through meetings, ongoing feedback and the CRG. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more

open and transparent approach with the community in relation to its proposed future operation of the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community. NAC is also committed to continuing this philosophy over the life of the revised Project.

NAC has made a commitment to publically provide a monthly summary of the monitoring completed for the revised Project. This information will be made available through the NHG's website and individually to its near neighbours.

In relation to the Private Submitter's general comments around this matter, NAC satisfied all the Office of the Coordinator General's requirements in relation to public/stakeholder consultation for the revised Project's draft EIS.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.2 Issue 2

NAC disagrees with the Private Submitter's views about the revised Project in relation to ecological sustainable development. NAC believes that the Mine has provided social and economic benefits to the region and for the revised Project expects these benefits to further increase as described in **Chapters 2, 16** and **17** of the draft EIS.

In regard to the Private Submitter's comment about the land acquisition within Acland, the majority of landholders originally approached NAC for the sale of their properties to take advantage of a better financial outcome and the opportunity to advance their lifestyle aspirations. Some of these former landholders have remained in the local area. While other former landholders have moved further afield in pursuit of their opportunities. Furthermore, on analysis of the facts, NAC believes that Acland was suffering the fate experienced by many small rural towns and was in a phase of senescence as a result of:

- an aging population;
- a general migration of younger people to cities and larger rural centres in search of employment and other opportunities;
- a lack of basic facilities; and
- its geographical location in relation to larger rural centres which offer a greater degree and diversity of services and facilities (e.g. Oakey and Toowoomba).

Therefore, NAC believes it has not destroyed the local community, but rather has facilitated the inevitable evolution of the local community as it adapts to the influences of a society progressing further into the 21st Century. Importantly, NAC as a major landowner is committed to a sustainable future for Acland and has provided an AMP in **Appendix I** of the AEIS.

NAC acknowledges the importance of agricultural land, and as a result, the NHG formed the APC during 2006 to manage land acquired for the revised Project ahead and behind the active mine path. The APC also provides expertise in relation to NAC's rehabilitation activities, grazing management and weed and pest management.

NAC and the APC are committed to improving rehabilitation performance over the life of the revised Project and are continuing grazing trials and a rehabilitation monitoring program to further promote this commitment. This objective is supported by the economic benefits of returning rehabilitated mined land to the highest possible level of agricultural production. Good rehabilitation performance at the revised Project site is critical to the maintenance of NAC's "social licence to operate" on the Darling Downs. The synergies of NAC's and APC's businesses demonstrate a commitment to achieve a long term sustainable outcome that provides social and economic benefits to the local community both now and into the future.

Furthermore, as a result the NHG's sustainability vision and holistic approach to land management within the Acland district, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and agricultural production at the cessation of mining in the Acland district. The APC as a larger farming business in the Acland district will also possess the advantage of 'economies of scale' through the amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends within the agricultural sector (Hooper et. al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

NAC's beneficial re-use of recycled water from the WWRF over the life of the revised Project is providing the TRC with a significant revenue stream that will deliver a continued benefit to the local regional community both now via improved council service delivery and into the future through the construction of community infrastructure.

Therefore, NAC believes the revised Project supports the principles of ecologically sustainable development and will ensure intergenerational equity is not negatively compromised. The revised Project will deliver both short and long term social and economic benefits. Further discussion around this matter is provided in **Chapter 2** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.22.3 Issue 3

NAC has corrected the typographical error in relation to a figure reference in **Chapter 6** of the draft EIS and acknowledged the correction in **Chapter 6** of the AEIS.

5.3.22.4 Issue 4

Updated groundwater modelling, including a sensitivity and uncertainty analysis, has been undertaken for the revised Project since the public release of the draft EIS and is reported in the IESC Submission presented in **Appendix F**, **H** and **N** of the AEIS. The updated model has further refined the groundwater impact predictions presented in the draft EIS. The groundwater modelling undertaken in the draft EIS and the subsequent AEIS has included a revision to the assessment of likely impacts post-mining.

Importantly, NAC has committed to 'Make Good' measures for affected landholders as outlined in the draft EIS and the revised Project's GMIMP located in **Appendix H** of the AEIS (i.e. as an update version). As outlined in the GMIMP, and to ensure consistency with the Water Act, a complaints process for affected landholders will be set up, and NAC will follow this process to investigate and confirm groundwater impacts following a complaint. Should these investigations confirm the complaint, NAC will reach agreement with affected landholders for 'Make Good' measures.

In addition to the complaints process, NAC has already commenced the process of putting Landholder Agreements in place for those landholders that have been identified as having bores that may be impacted by the revised Project. NAC is committed to ensuring that its neighbours with the potential for groundwater impacts from the revised Project possess a legally binding process to investigate groundwater complaints, and as required, to rectify identified groundwater issues through 'Make Good' measures.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.22.5 Issue 5

NAC will investigate all groundwater complaints related to the revised Project both during the operational phase and following mine closure. NAC will ensure all legitimate groundwater complaints are addressed in an expedient manner. As a consequence, NAC has developed a GMIMP to formalise the management of the revised Project's potential impacts on the surrounding groundwater environment. The revised GMIMP is provided in **Appendix H** of the AEIS.

As explained in **Section 5.3.24.4** of the AEIS, NAC is committed for the revised Project to providing certainty to its neighbours by ensuring a legally binding mechanism is available to investigate groundwater complaints and to implement 'Make Good' measures where a groundwater issue is identified.

NAC will negotiate all 'Make Good' measures with its neighbours and pay all costs associated with the agreed 'Make Good' measure(s). NAC will ensure a dispute resolution mechanism is available for neighbours if they feel aggrieved by the negotiation process for 'Make Good' measures. These components will be included in the proposed Landholder Agreements.

NAC is committed to implementing a complaints management process for groundwater issues raised in relation to the revised Project that is consistent with the Water Act. NAC has had initial discussions

with DNRM in relation to this matter and will investigate all groundwater complaints related to the revised Project both during the operational phase and following mine closure.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.6 Issue 6

To satisfy the Private Submitter's concerns, NAC acknowledges that the Jondaryan-Muldu Road, as an identified 'inactive' stock route, will be impacted by the revised Project. To mitigate this impact, NAC is proposing to re-align the Jondaryan-Muldu Road. In addition, NAC also believes **Section 4.2.2** of the draft EIS clearly states that the stock route affected by the revised Project is the Jondaryan-Muldu Road and acknowledges that an approvals process will be undertaken for the re-alignment of the 'inactive' stock route (including planned consultation).

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.22.7 Issue 7

NAC understands from past discussions with the TRC that the removal of the Key Resource Areas (KRA) from around Acland as part of their planning scheme was anomalous and could not be clearly explained at the time of enquiry. NAC is also aware that the TRC has recently approved two other KRAs in the immediate vicinity of Acland.

NAC is aware from more recent discussions with the TRC and other stakeholders as part of the EIS process that quarry materials in the TRC regional are reaching a point of short supply (i.e. as a finite resource).

In general, NAC has evaluated the revised Project against all relevant State planning scheme, which is provide in **Chapter 4** of the draft EIS.

5.3.22.8 Issue 8

NAC believes the Private Submitter's comments do not consider all the relevant information provided in the draft EIS, in particular the economic and social details provided in **Chapters 17** and **16**, respectively, of the draft EIS. NAC is also committed to the delivery of a SIMP, which clearly articulates the social benefits that will be derived from the revised Project's future operation. The SIMP is provided in a revised format in **Appendix E** of the AEIS. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

For information regarding alternate coal resources for the revised Project, please refer to **Chapter 2** of the draft EIS.

5.3.22.9 Issue 9

NAC has corrected the legend error identified in **Figure 4.-7b** of the draft EIS and acknowledged the correction in **Chapter 6** of the AEIS.

5.3.22.10 Issue 10

NAC acknowledges the error in relation to amount of remnant vegetation requiring specific management actions (offsetting) under Commonwealth and State law provided in **Section 4.8.3** of **Chapter 4** of the draft EIS. The correct total area requiring specific management actions (offsetting) under Commonwealth and State law is 82.7 ha, which comprises 42.6 ha of Brigalow, Poplar Box and Gum-topped Box regional ecosystems and 40.1 ha of Queensland Bluegrass regional ecosystems. These areas can be confirmed in NAC's revised biodiversity offset strategy for the Commonwealth and State provided in **Appendix M** of the AEIS. The error identified in **Section 4.8.3** of the draft EIS has been amended in **Chapter 6** of the AEIS.

NAC understands that the information provided in **Chapter 4** of the draft EIS as a summary on the matter requires further explanation for clarity. Firstly, one of the vegetation types is 'not of concern' under Commonwealth and State law (e.g. *Eucalyptus orgadophila*), and therefore, does not require specific management actions (offsetting). Secondly, under the current joint State and Commonwealth administrative arrangements, a vegetation type requiring management actions (offsetting) by both entities only needs to satisfy the largest component area (i.e. the State and Commonwealth component areas are not added together, only the largest component area is compulsory). Finally, presentation of the data can be complicated by the fact that certain regional ecosystems may possess different levels of significance under Commonwealth and State law.

The Private Submitter should be aware that offset matters are carefully scrutinised and regulated by the main Commonwealth and State administrative agencies. NAC is required to produce an OAMP by the Commonwealth and State to outline the delivery of its planned external offsets. NAC's main Commonwealth and State approvals will possess specific legal conditions in relation to its offset requirements. NAC has commenced consultation with the applicable State and Commonwealth government agencies and has engaged a third party offset broker to assist with the procurement of the necessary offsets.

For additional information regarding this matter, please refer to **Section 5.2.4** of the AEIS.

5.3.22.11 Issue 11

Three potential offset options are being considered by NAC for the revised Project and involve:

1. the development of an offset for the 40.1 ha of Queensland Bluegrass regional ecosystems on land adjacent to the revised Project site owned by the APC;

2. negotiating an agreement with a third-party property owner with a suitable patch of vegetation to take responsibility to produce over time an offset for the 42.6 ha of Brigalow, Poplar Box and Gum-topped Box regional ecosystems; and

3. purchase of a stand-alone property with a suitable patch of vegetation to be managed over time to produce an offset for the 42.6 ha of Brigalow, Poplar Box and Gum-topped Box regional ecosystems.

Earthtrade has sourced suitable alternatives for Options 2 and 3, which are now under consideration by NAC, and as a result, will remain confidential until they are legally secured. The selected option will require evaluation of its proposed vegetation offset to establish the 'offset multiplier'.

As explained in **Section 5.3.22.10** of the AEIS, NAC is required to produce an OAMP for the Commonwealth and State to outline the delivery of its planned external offsets. To satisfy Option 1, NAC has also produced a BOMP for the development of its Queensland Bluegrass offset. This document is provided in **Appendix J.8** of the draft EIS. NAC will need to demonstrate to the applicable State and Commonwealth government agencies that the external offset option is legally secured before the regional ecosystems in question can be disturbed by the revised Project. Similarly, NAC will need to prove to the applicable State and Commonwealth government agencies that its proposed Queensland Bluegrass offset is sufficiently advanced before the regional ecosystems in question can be disturbed by the revised Project.

For additional information regarding this matter, please refer to **Section 5.2.4** and **Appendix M** of the AEIS.

5.3.22.12 Issue 12

The 150 m separation distance is the minimum distance from the edge of the Manning Vale East and Willeroo Pits to Lagoon Creek (i.e. as the buffer from significant disturbance). Within the 150 m zone, there is initially a 50 m conservation zone adjacent to Lagoon Creek where no mining activities are allowed and access by mine personnel will be strictly controlled. NAC has developed a CZMP for the long term management and enhancement of the 50 m conservation zone. This document is provided in **Appendix J.6** of the draft EIS.

Outside the 50 m conservation zone there is a further 100 m to the pit edge where a flood bund and access road will be located. Mining activities within the 100 m will be limited to construction of the flood bund and road, temporary lighting of the mine pits, placement of safety barriers and signage, safety inspections and general maintenance. Additional design work for this area of the revised Project will be completed in the near future to define the exact location of the flood bund and access road. In general, the flood bund and access road will be as operationally close as possible to the pit edge.

NAC is committed to these buffer arrangements for the revised Project and believes that the conservation zone will be a legal condition of the revised Project's EA. NAC is committed to the protection and enhancement of Lagoon Creek within the revised Project site.

For additional information regarding this matter, please refer to **Section 5.2.4** of the AEIS.

5.3.22.13 Issue 13

NAC will ensure that the referencing in the AEIS is presented in a more consistent manner.

5.3.22.14 Issue 14

Construction for the revised Project is expected to take place over an 18 to 24 month period with activities expected to be 12 hours per day. Construction activities will vary in intensity over the 18 to 24 month period and will mainly involve the construction of the rail spur, loop, TLF, MHF, dams and other minor infrastructure. General construction activities will primarily involve light vehicular travel by construction workers and the use of construction equipment at variable static locations depending on the construction task and its phase of development (e.g. cranes at the MHF). The transient nature of these activities and their reduced scale are not expected to add significantly to the total volume of emissions released by the revised Project. In addition, implementation of mitigation measures described in **Section 9.5** of the draft EIS will assist in reducing the potential for air quality impacts during the construction phase.

NAC's proposed real-time air quality network for the revised Project will be established and commissioned during the construction period. It is envisaged that the real-time air quality network will be functioning during the second half of the revised Project's construction period, and therefore, will provide a valuable management tool for potential air quality impacts.

5.3.22.15 Issue 15

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- local stakeholder management (e.g. complaints); and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring. Further explanation around NAC's air quality management strategy is provided in **Chapter 9** of the draft EIS.

In terms of delivery of its air quality management strategy, NAC has developed an Air Quality Management Plan, which for openness and transparency has been made publically available in **Appendix J.10** of the draft EIS.

NAC is more than happy to engage and work with neighbours who possess genuine concerns. NAC has demonstrated during operation of its Mine that it is prepared to work with its neighbours even when compliance for the issue is demonstrated. NAC wishes to maintain this approach for the revised Project and is currently developing 'Landholder Agreements' for its neighbours to ensure a

defined investigation process is available for direct complaints or standard compliance monitoring triggers, and if required, a mitigation process is defined to address the identified problem. At a broader scale, NAC has also produced a LSMP, which again for openness and transparency has been made publically available in **Appendix J.18** of the draft EIS.

In relation to the Private Submitter's various concerns, NAC responds as follows.

At an operational level, all adaptive management changes made at the Mine in response to real-time monitoring will be captured for regulatory reporting purposes, and therefore, will be made available if a neighbour reports a concern or issue at the same time. For administrative reasons, this information will not be generally distributed without a legitimate reason.

NAC will continue to review the air quality dispersion modelling over the life of the revised Project, and in particular, will compare collected monitoring data and the modelled results at specific locations (e.g. sensitive receptors) to help guide future air quality mitigation strategies ahead of the mine path. NAC is likely to commission this process on an annual basis or as otherwise advised by professional guidance. NAC's commitment to this process is stated in **Section 3.7** of the Air Quality Management Plan provided in **Appendix J.18** of the draft EIS.

If NAC is unable maintain compliance through its proposed standard adaptive management process, senior management would then need to consider more stringent management actions, such as, permanent modification of the current mine plan to reduce or change certain operational parameters (e.g. production rates, equipment used, etc.). NAC believes based on the impact assessment work completed, the future adoption of the proposed mitigation strategies, and the implementation of the Air Quality Management Plan, that the risk of extended or permanent non-compliance at one of its neighbour's residence is low. In relation to the key air quality limits, NAC's mining operations are also bound by law to ensure that it remains compliant at all nearby sensitive receptors (neighbours) and that it does not cause deliberate or wilful exceedances as a result of its mining

The Private Submitter has misinterpreted the two different modelling approaches. The modelling undertaken for the EIS is far more complex and accurate, and is used as a predictive tool for long term impact assessment purposes over the life of a project. This form of modelling predicts a particular air quality scenario based on inputs and assumption to allow an assessment of potential impacts and the development of suitable mitigation strategies. This form of modelling is generally conservative in nature (i.e. it normally over predicts).

The model for the dust forecasting system is a risk based system that is used to support the overall air quality management strategy. This form of modelling will be employed on a daily basis to guide operations on the potential air quality risks for the day. It will be used in conjunction with real-time monitoring, weather predictions and other management actions (e.g. visual observations) to guide the operation's daily mining and mitigation options (e.g. water cart tasks, blast planning and equipment usage and placement). There was never an expectation that the modelling for the dust forecasting system would mimic the same level of modelling as undertaken for the revised Project's daft EIS.

NAC will be subjected to strict environmental conditions set by the DEHP, which cover air quality matters.

NAC believes the explanations it has provided in relation to the Private Submitter's various concerns have made the Private Submitter's suggested solutions redundant. In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.16 Issue 16

The Private Submitter's comments were noted. The photo imagery in question may have been further exaggerated by the printing process. Nevertheless, NAC will endeavour to ensure that future photo imagery is accurate as possible.

5.3.22.17 Issue 17

The SIA study area for the revised Project was developed in consultation with the Office of the Coordinator General and was based on statistical divisions outlined by the Australian Bureau of Statistics. The broader TRC area was included in aspects of the SIA for the revised Project. Further details on this matter are provided in **Chapter 16** of the draft EIS.

5.3.22.18 Issue 18

The Community Liaison Officer was a key initiative undertaken by NAC in recent years to improve its community engagement strategy. To-date, this initiative has proved highly successful and is continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

There are a number of other methods available for the public to contact NAC staff, including telephone contact numbers, e-mail addresses and via the NHG and revised Project websites.

Therefore, NAC believes the Private Submitter's comments are unreasonable and lack supporting evidence. NAC is confident that there is ample opportunity and flexibility for the public to make contact with NAC's Community Liaison Officers through the Community Office. NAC has also improved public access arrangements by employing another Community Liaison Officer.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.9** and **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.19 Issue 19

NAC acknowledges that over time its property purchases have to an extent, changed the local demographics in the vicinity of the revised Project site. NAC believes the social fabric of the district will re-adjust in time with support. Therefore, NAC is committed to supporting the local community and

has developed a SIMP to identify and define the roles of NAC, the government and the community in the mitigation and management of social impacts throughout construction, operation and decommissioning of the revised Project. The SIMP also aims to promote an active and on-going role for communities, local authorities and government throughout the life of the revised Project. The SIMP is provided in a revised format in **Appendix E** of the AEIS. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

In relation to the Private Submitter's claims, NAC believes the supporting evidence provided is statistically weak based on the fact that only four people out of a possible 157 people were involved in the original interview process. In addition, through further consultation NAC now also possesses a good relationship with one of the people interviewed.

Furthermore, NAC believes that its land acquisition program has not forced anyone off their properties within Acland or the surrounding district. NAC has negotiated in relation to all land matters and remains committed to achieving a fair and amicable outcome for all parties involved. All property sales conducted to date have provided flexible relocation arrangements to suit the requirements and preferences of affected landholders. NAC also reiterates the fact that the majority of landholders in Acland approached NAC for the sale of their properties to take advantage of a better financial outcome and the opportunity to advance their lifestyle aspirations.

NAC also believes that the population and demographics of Acland would have changed over time because the small town was suffering a fate experienced by many small rural towns in Australia as a result of:

- an aging population;
- the social migration of young people and families to cities and larger rural centres in search of employment and other lifestyle opportunities;
- a lack of general facilities and services; and
- its location in relation to larger rural centres which offer a greater degree and diversity of services and facilities (e.g. Oakey and Toowoomba).

Nevertheless, NAC is committed to the long term maintenance of Acland and has developed the AMP, which outlines the proposed management actions to ensure the protection, maintenance and possible enhancement of items, such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery. The AMP is provided in **Appendix I** of the AEIS. Further public consultation is planned as a component of the implementation of the AMP. NAC also possesses a specific management plan for the protection, maintenance and enhancement of the Acland No.2 Colliery. This document is provided in **Appendix J.12** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.22.20 Issue 20

In response to the Private Submitter's issue, following acquisition of a majority of the Acland residences, NAC had received negative feedback from the local community that looters were

frequenting the town. NAC made a commercial decision to sell, donate or demolish the houses it owned in Acland depending on their structural condition.

NAC in response to community and government concerns made significant changes to the original Stage 3 Project to produce the current mining proposal for the revised Project. The NHG understood that this modification was critical in the process to regain and maintain its "social licence to operate" on the Darling Downs, regardless of the economic cost to the Company.

As part of the revised Project's new operational footprint, Acland and a surrounding buffer zone were removed from the proposed mine areas and converted to a non-operational area (i.e. as a protected zone free from any mining disturbance). This significant action was designed to ensure that Acland remained open to the public, the remaining Acland residents were able to undertake their normal daily routine, and that items such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery, were protected in perpetuity.

NAC currently owns the Acland No.2 Colliery and will take ownership of the Tom Doherty Park on grant of ML 50232 for the revised Project (i.e. part of a Compensation Agreement with the DEHP).

To further demonstrate its commitment to the long term maintenance of Acland, NAC has developed the AMP, which outlines the proposed management actions to ensure the protection, maintenance and possible enhancement of items, such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery. The AMP is provided in **Appendix I** of the AEIS. Further public consultation is planned as a component of the implementation of the AMP. NAC also possesses a specific management plan for the protection, maintenance and enhancement of the Acland No.2 Colliery. This document is provided in **Appendix J.12** of the draft EIS.

5.3.22.21 Issue 21

The Acland No. 2 Colliery is owned and managed by the NHG. As a State heritage listed place, the Acland No. 2 Colliery is protected under the provisions of the *Queensland Heritage Act 1992* (QH Act). As a result, NAC has developed the Acland Colliery Management Plan to manage and conserve the State heritage values of the Acland No. 2 Colliery.

The Acland Colliery Management Plan provides an overview of the statutory and non-statutory requirements for the listed items including inspection and maintenance schedules and associated record-keeping requirements. A total of twenty-one management commitments have been included in the Acland Colliery Management Plan to ensure the former Acland No.2 Colliery receives a high standard of management and is protected for future generations. The Acland Colliery Management Plan is provided in **Appendix J.12** of the draft EIS.

NAC has undertaken consultation with the Heritage Officer of the Toowoomba Office of the DEHP and the TRC's Heritage Consultant and responsible Councillor to gain endorsement of its proposed management plan for the Acland No. 2 Colliery. NAC will continue to consult these key State and local government entities in relation to this matter.

In general, as a State heritage listed place, the significance of the Acland No.2 Colliery requires that NAC undertakes the general commitments as follows.

- The historic mine site, including all built, moveable and landscape features should be maintained and conserved within their original setting, particularly elements of moderate and high rankings of significance, wherever possible.
- Significant elements of the historic mine site should be maintained.
- Intrusive elements to historic mine site should be removed.
- Development on or immediately adjoining the historic mine site should be avoided or if necessary only undertaken with full consideration of the cultural heritage significance of the site.
- The scale, form and setting of the historic mine site should be respected and any proposed management or use options should be sympathetic to its historic use.

NAC is committed to the long term management and protection of the Acland No. 2 Colliery. NAC trusts this information will allay the Private Submitter's concerns in relation to this matter.

5.3.22.22 Issue 22

NAC disagrees with the Private Submitter's comments around consultation. While individual meetings were not held with all landowners surrounding the revised Project, NAC believes there where ample opportunities and/or mechanisms for the Private Submitter to engage with NAC in relation to the revised Project. These consultation opportunities and mechanisms are outlined in **Chapter 19** of the draft EIS.

Following public release of the draft EIS for the revised Project, NAC conducted public consultation events at Jondaryan, Goombungee, Acland and Oakey during February 2014. These events offered an opportunity for the Private Submitter to engage with NAC. NAC is aware that the Private Submitter attended the Acland public meeting for the draft EIS.

In relation to the Mine's consultation program, the Community Liaison Officer and CRG are key initiatives undertaken by NAC in recent years to improve its community engagement strategy. To-date, both initiatives have proved highly successful and are continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

NAC has conducted a number of open community consultation events (public information days) in Oakey for the Mine and revised Project over the past few years, but is unsure whether the Private Submitter has attended these informative events. In general, these open community consultation events have offered a wonderful opportunity for the public to interact with NAC and NHG staff and obtain first-hand information about key aspects of the Mine and revised Project.

For further information on NAC's proposed social impact management (including community engagement strategy) for the revised Project, refer to **Sections 5.1.9 and 5.1.10** and **Appendix E** of the AEIS. For additional information in relation to this issue, please also refer to **Section 5.3.20.1** of the AEIS.

NAC's proposed consultation with the Private Submitter in relation to this issue is further outlined in **Section 5.1.10** of the AEIS.

5.3.22.23 Issue 23

For the revised Project, NAC is committed to mining the Manning Vale East, Manning Vale West and Willeroo Pits. 'Surface rights' from a legal perspective means that mining activities can only take place on those areas where they are present within the mining lease boundary. Conducting mining activities outside 'surface rights' areas is illegal under the MR Act. If mining is proposed within an area of no 'surface rights' within an existing mining lease boundary, a proponent is required to lodge a complete new 'surface rights' application which is similar in process requirements to a new mining lease application, and therefore, may require completion of a new EIS as part of the approval process.

Nevertheless, as a demonstration of further good will and commitment to the local community, NAC is planning to abandon the portion of the original MLA 50232 area located to the south of the revised Project (i.e. the Sabine area) and Acland. Additional information is located in **Section 5.1.2** of the AEIS.

NAC has developed the AMP for the long term maintenance and enhancement of Acland. This document is provided in **Appendix I** of the AEIS.

NAC is committed to the protection and maintenance of the Acland No. 2 Colliery and has developed an Acland Colliery Management Plan for this purpose. This document is provided in **Appendix J.12** of the draft EIS. The Acland No.2 Colliery lies within the protection zone around Acland. This State heritage listed item is also protected under the *Queensland Heritage Act 1992*.

NAC is committed to the protection and enhancement of the conservation zone proposed for the revised Project and has developed a CZMP for this purpose. This document is provided in **Appendix J.6** of the draft EIS. The protection of the conservation zone will be enforced as a condition of the revised Project's new EA. Mining activities will be excluded from the conservation zone, except for one creek crossing to allow access between the Willeroo Pit and the revised Project's Industrial area (i.e. workshops, CHPP Precinct and Administration area).

Finally, if the revised Project is approved, any future significant changes would require additional assessment and approval. NAC trusts this information will eliminate the Private Submitter's concerns in relation to this matter.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.22.24 Issue 24

NAC's experience with land purchases over the life of the Mine confirms that land values have continued to fluctuate through normal real estate market and other mechanisms. NAC has been supportive in relation to land purchase in close proximity to the Mine, and where feasible, has made reasonable land purchases for buffer purposes. NAC is always amenable to discussions with its neighbours in relation to land matters. NAC will continue this philosophy over the life of the revised

Project. To better understand NAC's planned engagement strategy for local stakeholders, NAC recommend that the Private Submitter review the LSMP provided in **Appendix J.18** of the draft EIS.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.25 Issue 25

NAC believes the Private Submitter's comments and statements do not represent the finding of the SIA undertaken for the revised Project.

NAC has always taken issues raised by the Private Submitter seriously and in the past has had genuine efforts to delineate the extent of these issue rejected. For example, an air quality issue was raised by the Private Submitter in relation to the Mine's operation at their residence and was made with particular reference to their children. NAC responded promptly and offered to organise an extensive range of air quality monitoring ($PM_{2.5}$, PM_{10}, TSP and dust deposition) at the Private Submitter's residence by an independent third party (SIMTARS). NAC's offer was rejected very late in the process. Regardless, NAC still undertook this monitoring for an extended period at a location between the Private Submitter's residence and the Mine and was able to demonstrate compliance in relation to all the monitored parameters.

During the management of a past noise issue, the Private Submitter also rejected numerous offers to come to the Mine and jointly analyse the various on-site noise sources in attempt to identify the offending noise at their residence. These offers were made as part of NAC's approach to environmental management at the Mine. NAC will continue this leading practice management strategy for the revised Project.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.26 Issue 26

In relation to the Private Submitter's general comments around this matter, NAC satisfied all the Office of the Coordinator General's requirements in relation to public/stakeholder consultation for the revised Project's draft EIS. NAC believes that there were sufficient opportunities for the Private Submitter to obtain information about the revised Project. The Private Submitter could have also approached NAC directly for information about the revised Project.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.27 Issue 27

NAC disputes the Private Submitter's claims in relation to NAC's management of the 2012 air quality complaint described. In relation to this matter, NAC responded promptly and offered to organise an extensive range of air quality monitoring ($PM_{2.5}$, PM_{10}, TSP and dust deposition) at the Private Submitter's residence by an independent third party (SIMTARS). NAC's offer was rejected very late in the process. Regardless, NAC still undertook this monitoring for an extended period at a location between the Private Submitter's residence and the Mine and was able to demonstrate compliance in relation to all the monitored parameters.

NAC has a legal agreement with the Private Submitter's family as an outcome of the approvals process for Stage One of the Mine that provides a mechanism of resolution for addressing specific issues, such as health problems.

To date, the Private Submitter's family has not provided NAC with any evidence of health problems that have been caused by the Mine's operation or invoked the legal agreement's process in regard to managing health issues. Importantly, if legitimate issues are raised by the Private Submitter's family in relation to NAC's mining operations, NAC would respond accordingly to resolve the issues in an amicable manner and with the agreement of the Private Submitter.

During the management of a past noise issue, the Private Submitter also rejected numerous offers to come to the Mine and jointly analyse the various on-site noise sources in attempt to identify the offending noise at their residence. These offers were made as part of NAC's approach to environmental management at the Mine. NAC will continue this leading practice management strategy for the revised Project.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.28 Issue 28

For the Private Submitter's information, NAC established a CRG as part of an ongoing community engagement process during October 2012. A transparent and equitable process has been used to select representatives from across the region as members. The CRG's role is to provide local insight on key topics, particularly in relation to potential opportunities and impacts presented by NAC's mining operations. It is also another avenue for sharing information with the broader community in addition to the Community Information Centre, newsletters and other initiatives. The CRG will operate as an advisory body and outcomes will inform NAC's planning and decision-making for the revised Project. The CRG also plays a significant role in the administration of the NAC's Community Investment Fund by assessing applications and making recommendations to NAC on appropriate community development initiatives for support.

NAC is surprised that the Private Submitter was unaware of the CRG until recently given the amount of information that has been publically provided about the group in community newsletters and the two membership nomination processes advertised in the local newspaper. NAC also make available

details and minutes from the CRG on the Company's website. Since formation, the CRG has been through two rounds of membership nomination. The most recent round of CRG membership nomination further concentrated on local participation within the group and resulted in a near neighbour of the Mine being nominated as the 'facilitator'. The CRG has engaged other community groups to raise its profile.

The Private Submitter is invited to further investigate the CRG's roles and function at www.aclandproject.com.au.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.22.29 Issue 29

A number of issues were raised in relation to localised cumulative impacts from current operations at the Mine and the revised Project were identified in **Table 20-1** of the draft EIS. These issues are discussed below:

The EIS for the New Acland Coal Mine Stage 2 expansion (SKM, 2007) identified the land suitability for rainfed cropping on ML 50216. The majority of ML 50216 was Class 3 denoting the area was suitable for rainfed cropping with moderate limitations requiring significant inputs to ensure sustainable use. A FLURP has been developed and implemented under the Plan of Operations to rehabilitate land post-mining. The proposed post-mine land use is grazing based on a self-sustaining vegetation community. By the end of 2013 approximately 288 ha of land disturbed by mining, including re-contoured spoil/waste rock dump areas, has been rehabilitated and returned to grazing. For the revised Project, the requirements for SCL assessment are captured in the RPI Act. NAC will comply with the RPI Act with regard to the revised Project's impacts on cropping land.

The increase in greenhouse gas emissions above current operations of the Mine represents 0.01% of Australia's annual greenhouse gas emissions. The expected increase in greenhouse gas emissions from the revised Project represents a very minor contribution to global emissions and is considered to be insignificant.

As stated in **Section 16.7.3** of the draft EIS, Acland was established to support the Acland Coal Mine which operated until 1984. NAC commenced operations at the Mine in October 2002. Since the inception of the Mine, NAC has acquired 160 lots totalling an area of approximately 10,151 ha. All property sales have occurred via voluntary negotiations between landholders and NAC. It is understood that approximately 90 families have relocated from Acland since around 2006. In many instances, families have voluntarily taken the opportunity to move to areas with better services and infrastructure or improved amenity.

NAC have undertaken monthly noise monitoring noise for current operations at the Mine since 2002. The monthly noise monitoring has not identified an exceedance of the noise objectives in the EA from the Mine. Mining operations were audible on at sensitive receptors and NAC have received. For the Mine, NAC has undertaken an extensive range of management actions to address noise (e.g. the

changing of all reversing beepers on mobile equipment). NAC recently implemented a TARP to manage noise from current operations at the Mine. The objective the TARP is to maintain compliance with the current noise objectives through a real-time monitoring program and the implementation of an adaptive management framework for noise emissions from the mining operations. In the event that monitoring indicates noise levels from mining operations may exceed of the EA conditions, NAC cease, reduce or relocate identified noisier mining activities. For the revised Project, NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events LA_{max}. Therefore, the revised Project will be required to operate under considerably stricter noise limits.

The potential groundwater impacts of the revised Project were presented in **Chapter 6** of the draft EIS. Subsequent to the release of the draft EIS, a revised groundwater model has been prepared. For further information regarding this matter refer to **Section 5.2.8** and **Appendix F**, **H** and **N** of the AEIS. Groundwater drawdown from existing Stage 1 and Stage 2 operations has been included in the numerical groundwater modelling of the existing environment. The groundwater model developed for the groundwater impact assessment has significantly revised the groundwater inflows predicted for Stage 1 and Stage 2 operations. The groundwater model has been calibrated using observed mine inflow rates/volumes from the Mine.

The proposed feedlot has been assessed and approved under a separate approval process. As stated in the submission, a key environmental concern for feedlot operations is potential for odour impacts. Odour emissions from the revised Project are insignificant and there is minimal potential for cumulative impacts.

5.3.22.30 Issue 30

The potential for cumulative noise impacts from the revised Project was considered in the noise impact assessment in **Section 11.7** of the draft EIS. Mine layouts for the Mine and the revised Project are presented in **Section 3.6.2** of the draft EIS. **Figure 3-11** of the draft EIS identifies the locations of mine pits and working areas in 2019. Mining operations including overburden removal and coal extraction will not be contemporaneous for transition from Stage 2 and to Stage 3 operations. Some operations for the revised Project will occur on ML 50170 and ML 50216 including CHPP operations and the transport of RoM coal to the CHPP. The operations on ML 50170 and ML 50216 have been included in the noise model for the noise impact assessment. Activities that relate to the existing Mine operations are rehabilitation activities including dozer operations on mined areas.

5.3.23 Private Submitter 294

5.3.23.1 Issue 1

In response to the Private Submitter's concerns about the continued operation of the JRLF and the associated potential for adverse noise and dust impacts, NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals.

If the main statutory approvals for the revised Project are granted during 2015, a further two years will be required to construct the new rail spur and balloon loop, TLF and MHF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of these new

structures is expected during 2017, which will allow the cessation of train loading activities at the JRLF. Decommissioning of the JLRF will then be conducted between 2018 and 2019. Further details on the decommissioning strategy for the JRLF are provided in **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

In relation to the Private Submitter's concerns about dust from operation of the JLRF, NAC will continue to employ an array of dust mitigation actions at the facility until decommissioning is completed. Some of the dust mitigation completed to-date at the JRLF have included:

- constructing a new domestic product coal pad further away from Jondaryan (i.e. as a high movement pad);
- sealing of high volume roadways (which conveys 75% of onsite traffic);
- introduction of a larger water truck;
- execution of the key findings of a traffic direction study (QMI Solutions 2009) to minimise fugitive dust generation from traffic movements (i.e. by controlling the level and direction of traffic movements and minimising turning requirements for truck traffic);
- increasing the size of the main dam on site to improve water capture and storage for dust suppression purposes;
- construction of a grassed berm on the upwind side of the new domestic product coal pad to minimise the generation of windborne dust (i.e. in relation to the main prevailing wind direction);
- upgrading of the bore pump on site and its power supply to improve water extraction (rate and reliability) for dust suppression purposes;
- planting of additional trees strategically around the main stockpile pad area and to the east of the domestic product coal pad to act as windbreaks; and
- implementing a real-time air quality monitoring system within Jondaryan combined with adaptive management practices that may stop or reduce operations at the JRLF based on the real-time monitoring data.

NAC will maintain its advanced real-time air quality monitoring within Jondaryan until decommissioning is completed. As explained, the results of the real-time air quality monitoring system are used to trigger stringent management measures at the JRLF should air quality limits be exceeded within Jondaryan. NAC will also continue to report the results of this monitoring on a regular basis to the Jondaryan residents, the wider public and the DEHP (main regulatory authority). NAC's real-time monitoring system involves the use of TEOMS to measure total suspended particulates on a continuous basis within Jondaryan. This form of air quality monitoring is considered leading practice by the regulatory authorities.

NAC has worked with the JDRA to address the Jondaryan residents' concerns in relation to the JRLF and has involved individual residents in specific studies into rainwater tank water quality and the presence of coal in deposited dust with rainwater tanks and on opens surfaces. In summary, these additional studies have not identified any significant environmental or other issues in relation to the operation of the JLRF.

From a health perspective, NAC continues its quarterly PM_{10} particulate (respirable dust) monitoring and has completed a correlation study to help predict real-time PM_{10} levels from the TEOM data. In summary, this monitoring has not demonstrated that the operation of the JRLF is impacting on the respiratory health of the Jondaryan community from airborne particulates. An independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates. The Queensland government now undertakes permanent real-time monitoring in Jondaryan, which provides a permanent independent third party assessment of the air quality environment.

To help address community concerns, in recent times NAC has significantly reduced the amount of product coal stockpiled at the JRLF to well below the facility's approved capacity, and under normal operational circumstances (e.g. no extended rail outages), intends to continue this management practice at the JRLF until the cessation train loading activities. This management approach by NAC ensures that the potential for noise and air quality impacts are further minimised through the reduction in associated equipment usage (e.g. dozer pushes on the stockpiles).

Finally, the Private Submitter should be aware that the environment surrounding Jondaryan is subject to influences from a number of dust nuisance and airborne particulate sources that include:

- the extensive vehicular movements along the adjacent Warrego Highway;
- rail traffic along the adjacent Western Railway line;
- operation of the nearby Jondaryan Landfill;
- surrounding rural activities;
- traffic movements over local unsealed roads and exposed road verges; and
- the operation of the JRLF.

NAC understands that these sources are exacerbated by weather patterns, particularly prevailing rainfall, temperature and wind conditions. Road and rail traffic conditions are also compounded by the volume and type of vehicular movements (e.g. heavy vehicles) and the range and status of load types. Road and rail traffic has also risen significantly in recent as a result of the expansion of the coal seam gas industry in the Surat Basin.

Similar to air quality, the Jondaryan noise environment is subject to multiple noise sources. For example, extensive vehicular movements along the adjacent Warrego Highway, rail traffic along the adjacent Western Railway line, operation of the JRLF and a range of other sources that would vary over the year (e.g. insect, domestic and aviation activities). Again, the intensity of these sources would be affected by weather patterns, particularly prevailing temperature and wind conditions.

During 2010, NAC introduced noise monitoring to assess the compliance status of the JRLF's operations at the nearest sensitive receptor in Jondaryan. The noise monitoring is undertaken on a monthly basis and for sensitivity reasons involves the assessment of the noise environment during the evening/night period. The date and time is selected randomly and varies each month. The JRLF's operators are unaware of the scheduling of each noise monitoring event to ensure a 'blind test' methodology. This monitoring has helped quantify the impact of the other potential noise sources in the area.

Noise issues in relation to the Western Railway line are under Aurizon's jurisdiction and management. Therefore, it is suggested that all noise concerns about rail transport be raised directly with Aurizon. Longer term, NAC will use its monitoring results to continuously review its compliance status and to develop new and modify existing mitigation strategies to minimise potential adverse noise impacts from the JRLF's operations affecting Jondaryan. NAC is committed to operating the JLRF in compliance with the noise conditions of its environmental authority up until closure of the facility.

5.3.23.2 Issue 2

As explained in **Section 5.3.23.1** of the AEIS, similar to air quality, the Jondaryan noise environment is subject to multiple noise sources. For example, extensive vehicular movements along the adjacent Warrego Highway, rail traffic along the adjacent Western Railway line, operation of the JRLF and a range of other sources that would vary over the year (e.g. insect, domestic and aviation activities). Again, the intensity of these sources would be affected by weather patterns, particularly prevailing temperature and wind conditions.

During 2010, NAC introduced noise monitoring to assess the compliance status of the JRLF's operations at the nearest sensitive receptor in Jondaryan. The noise monitoring is undertaken on a monthly basis and for sensitivity reasons involves the assessment of the noise environment during the evening/night period. The date and time is selected randomly and varies each month. The JRLF's operators are unaware of the scheduling of each noise monitoring event to ensure a 'blind test' methodology. This monitoring has helped quantify the impact of the other potential noise sources in the area.

Where practical, machine usage during the night time period at the JRLF is kept to an operational minimum. The JRLF operates as a 24 hour, seven days per week operation to address Aurizon's train scheduling requirements. Several years ago, NAC redesigned the JRLF's layout for the Project to minimise the potential for noise impacts within Jondaryan. This redesign has allowed NAC to significantly reduce the use of nosier equipment, such as dozers. On mobile equipment, NAC has reduced the sound power level of all reversing beepers on-site to their minimum setting and has installed the less intrusive 'cicada' type alarms. NAC's current stockpile management regime at the JRLF is designed to keep product coal stockpiles at an operational minimum for train loading purposes. Importantly, this management approach reduces the amount of associated equipment movements and decreases the potential for the production of fugitive noise emissions that may cause noise impacts (e.g. dozer activities on the stockpiles).

Noise issues in relation to the Western Railway line are under Aurizon's jurisdiction and management. Therefore, it is suggested that all noise concerns about rail transport be raised directly with Aurizon. Longer term, NAC will use these monitoring results to continuously review its compliance status and to develop new and modify existing mitigation strategies to minimise potential adverse noise impacts from the JRLF's operations affecting Jondaryan. NAC is committed to operating the JLRF in compliance with the noise conditions of its EA up until closure of the facility.

5.3.23.3 Issue 3

NAC believes it possesses sufficient scientific evidence to demonstrate that the JRLF's operations are not impacting significantly on the air quality of Jondaryan. This scientific evidence comprises monitoring data from real-time TSP monitoring, monthly dust deposition and compositional analysis, quarterly PM_{10} monitoring and periodic special testing, which has included rainwater tanks and insitu surface dust from Jondaryan residences. NAC also summarises the results of its monthly monitoring campaigns within Jondaryan and provides them publically at the Jondaryan Service Station and on the NHG's website.

NAC knows that an independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates. NAC is also aware that the Queensland government undertakes permanent real-time monitoring in Jondaryan, which provides a permanent independent third party assessment of the air quality environment. To-date, no specific issues have been raised against the JRLF's operations by the Queensland government.

As explained, the Private Submitter should be aware that the environment surrounding Jondaryan is subject to influences from a number of dust nuisance and airborne particulate sources that include:

- the extensive vehicular movements along the adjacent Warrego Highway;
- rail traffic along the adjacent Western Railway line;
- operation of the nearby Jondaryan Landfill;
- surrounding rural activities;
- traffic movements over local unsealed roads and exposed road verges; and
- the operation of the JRLF.

NAC understands that these sources are exacerbated by weather patterns, particularly prevailing rainfall, temperature and wind conditions. Road and rail traffic conditions are also compounded by the volume and type of vehicular movements (e.g. heavy vehicles) and the range and status of load types. Road and rail traffic has also risen significantly in recent as a result of the expansion of the coal seam gas industry in the Surat Basin.

Therefore, NAC believes the Private Submitter's comments on dust are consistent with what would be expected within Jondaryan and its surrounding environs.

5.3.23.4 Issue 4

NAC refutes the Private Submitter's claim about the living standard in Jondaryan based initially on a lack of supporting objective evidence. NAC operates the JRLF in compliance with the strict legal limits of its environmental authority for the facility. NAC continues to undertake a range of monitoring and special testing within Jondaryan to demonstrate compliance. This information is provided to the Jondaryan public on a monthly basis at the local Service Station and to the wider public on the NHG's website.

As part of the revised Project, NAC has made a commitment to the public to relocate its coal loading activities at the JRLF to the revised Project site (i.e. via a new rail spur and loop TLF and MHF). NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals.

If the main statutory approvals for the revised Project are granted during 2015, a further two years will be required to construct the new rail spur and balloon loop, TLF and MHF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of these new structures is expected during 2017, which will allow the cessation of train loading activities at the JRLF. Decommissioning of the JLRF will then be conducted between 2018 and 2019. Further details on the decommissioning strategy for the JRLF are provided in **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

5.3.23.5 Issue 5

NAC disagrees with the Private Submitter's comments in relation to sponsorships and benefits. At a local government level, NAC through its purchase of recycled water from the WWRF and payment of local rates is a very significant contributor to the TRC's revenue stream, which over time would be proportionately spent within the Jondaryan area. NAC suggests that the Private Submitter further discuss the TRC's expenditure in Jondaryan with the applicable local member of the TRC.

As part of its continued Community Sponsorship and Donation Program, NAC has provided a range of sponsorships and donations to various Jondaryan recipients. Two key community areas in Jondaryan to receive recent contributions from NAC include the local school and the rural fire brigade. In general, NAC's Sponsorship and Donations Program prioritises support for communities in the immediate vicinity of the New Acland operations, such as Oakey, Jondaryan, Maclagan, Quinalow, Goombungee, Kingsthorpe, Kulpi and Peranga. Support is provided in the areas of community and welfare services, education, health, arts and entertainment and sport.

NAC has implemented a community investment fund to contribute to social infrastructure and service development, and in the future, to optimise the revised Project's benefits in the local community. The community investment fund will involve larger grants/funding for community development initiatives and will be administered through the CRG. Further information around NAC's Community Sponsorship and Donation Program and Community Investment Fund is provided in the SIMP and LSMP locate **Appendices J.14** and **J.18**, respectively, of the draft EIS.

As an outcome of on-going consultation with the JDRA, NAC has bituminised the dirt road verge on the Warrego Highway near the Jondaryan Service Station to eliminate dust caused by vehicles stopping for food and refreshments (i.e. as a recognised significant dust source within the town). NAC will continue to work with the JDRA to identify these types of positive opportunities.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.23.6 Issue 6

NAC disagrees with the Private Submitter's statement in relation to Jondaryan property values and the revised Project. NAC is committed to the decommissioning of the JRLF, and based on current predictions around the granting of approvals during 2015, coal loading activities at the JRLF will cease during 2017 and decommissioning and rehabilitation activities will be conducted at the JRLF between 2017 and 2019. These actions by NAC should remove any perceived negative public perceptions associated with the operation of the JRLF. Based on the distance between the revised Project and Jondaryan (i.e. approximately 8 kilometres), NAC does not believe the revised Project will negatively influence property values in Jondaryan.

5.3.24 Private Submitter 296

5.3.24.1 Issue 1

For the revised Project, NAC is committed to mining the Manning Vale East, Manning Vale West and Willeroo Pits. 'Surface rights' from a legal perspective means that mining activities can only take place on those areas where they are present within the mining lease boundary. Conducting mining activities outside 'surface rights' areas is illegal, under the MR Act. If mining is proposed within an area of no 'surface rights' within an existing mining lease boundary, a proponent is required to lodge a complete new 'surface rights' application which is similar in process requirements to a new mining lease application, and therefore, may require completion of a new EIS as part of the approval process.

Nevertheless, as a demonstration of further good will and commitment to the local community, NAC is planning to abandon the portion of the original mining lease application area located to the south of the revised Project (i.e. the Sabine area) and Acland. Additional information is provided in **Section 5.1.2** of the AEIS.

NAC has developed the AMP for the long term maintenance and enhancement of Acland. This document is provided in **Appendix I** of the AEIS.

NAC is committed to the protection and maintenance of the Acland No. 2 Colliery and has developed an Acland Colliery Management Plan for this purpose. This document is provided in **Appendix J.12** of the draft EIS. The Acland No.2 Colliery lies within the protection zone around Acland. This State heritage listed item is also protected under the *Queensland Heritage Act 1992*.

NAC is committed to the protection and enhancement of the conservation zone proposed for the revised Project and has developed a CZMP for this purpose. This document is provided in **Appendix J.6** of the draft EIS. The protection of the conservation zone will be enforced as a condition of the revised Project's new EA. Mining activities will be excluded from the conservation zone, except for one creek crossing to allow access between the Willeroo Pit and the revised Project's Industrial area (i.e. workshops, CHPP Precinct and Administration area).

Finally, if the revised Project is approved, any future significant changes further assessment and approval would be required.

For additional information regarding this matter, please refer to **Section 5.1.2** of the AEIS.

5.3.24.2 Issue 2

Refer to **Section 5.3.24.1** of the AEIS for the response to this issue.

5.3.24.3 Issue 3

NAC notes the Private Submitter's concerns and responds as follows. NAC has reached an amicable agreement with the remaining person living in Muldu.

There are a small number of Offices associated with NAC's business that operate at Muldu. To-date, no issues have been raised by the occupants of the Offices in relation to operation of the Mine (i.e. health or otherwise). It should be noted that these Offices are not always permanently staffed and are considered part of the Mine's operations. If an issue was raised by any of the occupants of the Offices, NAC would investigate the matter, and as required, would take the necessary actions to mitigate and/or rectify the identified problem.

In relation to the final issue, it is the APC Pastoral Manager's personal choice to live at the homestead on the Balgowan property. The APC Pastoral Manager possesses a number of residential options on APC land and could if required. NAC is unaware of any requirement for an employee to reside permanently on the Balgowan property as part of APC's feedlot approval. NAC confirmed this matter with APC's Pastoral Manager. Currently, the APC's Pastoral Manager does not possess any concerns in relation to this matter and considers it a non-issue. Reference to the feedlot is also outside the approved ToR for the revised Project.

5.3.24.4 Issue 4

In relation to the Private Submitter's concerns about the layout of the MHF, NAC acknowledges that the text could be slightly clearer in explanation. For the record, the additional two stockpile areas are described in the last paragraph of the commentary around the MHF's stockpile arrangement in **Section 3.7.6** of the draft EIS. NAC offers the following advice for further clarity on this matter.

The MHF possesses four operational stockpile areas and two emergency stockpile areas. Under normal operating conditions, the four stockpile areas will be used, but will never be completely full due to the dynamic continuous nature of the coal handling process. The two emergency stockpile areas will only be operated in exceptional circumstances, for example, if the main railway line stops operation for an extended period. If used, the two emergency stockpile areas will require manual reclaiming by mobile equipment (e.g. front end loaders).

5.3.24.5 Issue 5

In relation to the Private Submitter's concerns about dust from the MHF, NAC responds as follows. Firstly, particulate emissions from the MHF were included in the air quality modelling scenarios depicted over the life of the revised Project. This air quality modelling commissioned by NAC was designed to be conservative in nature to simulate potential worst case scenario conditions for set stages over the life of the revised Project. The air quality model used is of a recognised standard for impact assessment and is supported by Queensland's main regulatory and assessment body, the DEHP. To increase the veracity of the scientific assessment undertaken for the revised Project's air

quality modelling, a series of meetings were held with the DEHP and the Office of the Coordinator General during the development phase to ensure the modelling inputs, assumptions and methodology were correct; to overview the preliminary results; and to discuss the delivery and presentation of the outputs within the draft EIS.

Therefore, NAC believes the air quality modelling completed for the revised Project is robust and provides a suitable degree of accuracy for impact assessment purposes. A review of the air quality modelling results at the Private Submitter's residence did not identify any potential exceedances for any of the air quality parameters analysed over the life of the revised Project, which included PM_{10} and $PM_{2.5}$ for health evaluation purposes and dust deposition for nuisance evaluation purposes. These results were not unexpected based on the wind conditions generally experienced over an annual period and the fact that mining activities continue to progress away from the Private Submitter's residence over the life of the revised Project. Further details around the air quality modelling for the revised Project are provided in **Chapter 9** of the draft EIS.

To further mitigate risks around air quality management, NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project, which includes the implementation of:

- mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system to provide potential dust risk predictions;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management involving the suspension or modification of mining operations);
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

NAC will deliver its comprehensive air quality management strategy through an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS. Please note, this plan is one of a suite of management plans for the revised Project that normally would have been developed after approval of the project, but instead have been provided to the public as part of the draft EIS as demonstration of transparency and openness.

The MHF is considered leading practice for coal handling by the global mining industry. The facility offers more opportunity for dust control via spray systems and is highly mechanised and automated which negates the use of bulldozers and other equipment during general operation. These features alone significantly minimise the potential for dust and noise emissions. The fact that the product coal is handled in a moist state further enhances the mitigation performance of the MHF.

For clarity, the Private Submitter's reference to **Table 9-21** of the draft EIS has identified a typographical error within one of the "Mining Activity" headings. The "Mining Activity" heading in question should read "TLF" only, and not "CHPP, MHF, TLF". This error is made more obvious by the fact that the CHPP and MHF have already been addressed in **Table 9-21** of the draft EIS.

Similarly, the Private Submitter's additional reference to **Table 9-24** of the draft EIS highlights another typographical error in the "Action" list for "Minimising Dust Emissions". The "Action" in question should read "No coal will be stored in open/exposed stockpiles at the TLF.", and not "No coal will be stored in open/exposed stockpiles." This typographical error appears to be a transpositional error as the summary table for the mitigation measures was developed.

NAC has corrected the typographical errors in **Tables 9-21** and **9-24** of the draft EIS and acknowledged the correction in **Chapter 6** of the AEIS. In summary, NAC will not be covering the MHF's stockpiles (i.e. based on the reasons previously stated in this Section).

5.3.24.6 Issue 6

In relation to the Private Submitter's concerns about spontaneous combustion, NAC will continue to undertake a range of operational mitigation measure to reduce the potential for spontaneous combustion such as regular stockpile auditing to reconcile the amount of coal stored, control of stockpile geometry and regular inspections to identify early occurrences of hot spots. To-date, the spontaneous combustion of the coal extracted from the Mine has not been a significant issue. An identical outcome is expected for the revised Project because the same coal sequence will be mined.

In general, the Acland-Sabine coal sequence due to its physical and chemical qualities (coal type and rank) is not as predisposed to spontaneous combustion as many other coal sequences in Australia. NAC from operational experience at the Mine has identified that if product coal is stockpiled for a long period of time it is more predisposed to spontaneous combustion and that RoM coal has not shown any propensity to spontaneously combust. NAC's current product coal handling practices from the Mine to the Port of Brisbane does not normally allow for the long term storage of product coal, which helps reduce the risk of spontaneous combustion. As a priority, NAC will continue to ensure that product coal is not stored for extended periods at the site over the life of the revised Project, apart from during exceptional circumstances.

5.3.24.7 Issue 7

In relation to the Private Submitter's concerns about a coal to liquids facility, NAC has no current business intentions to construct this type of facility for the revised Project. A coal to liquids facility for the revised Project is outside the approved ToR.

5.3.24.8 Issue 8

NAC disagrees with the Private Submitter's accusations and inferences made around increasing production and the capacity of the CHPP for the revised Project. NAC understands that the commissioned air quality and noise modelling was designed to be conservative in nature to simulate potential worst case scenario conditions for set stages over the life of the revised Project. In addition, to further simulate real life conditions, the revised Project's air quality and noise modelling used the planned maximum production, the proposed infrastructure, and the specific mine plan and the designated mobile and other equipment list for each year modelled. The scientific methodology, inputs and assumptions behind the air quality and noise modelling are further explained in **Chapters 9** and **11**, respectively, of the draft EIS.

The air quality and noise models used are of a recognised standard for impact assessment and are supported by the DEHP as Queensland's main regulatory and assessment body for mining projects. To increase the veracity of the scientific assessment undertaken for the revised Project's air quality and noise modelling, a series of separate meetings for each topic were held with the DEHP and the Office of the Coordinator General during their development phase to ensure the modelling inputs, assumptions and methodology were correct; to overview the preliminary results; and to discuss the delivery and presentation of the outputs within the draft EIS. Importantly, for the sensitive issue of noise, NAC in consultation with the DEHP as part of the process proposed more stringent operational noise conditions, particularly for night-time operations, and nominated an operational limit for single impulsive noise events L_{Amax}.

Therefore, NAC believes the air quality and noise modelling completed for the revised Project is robust and provides a suitable degree of accuracy for impact assessment purposes. A review of the air quality modelling results at the Private Submitter's residence did not identify any potential exceedances for any of the air quality parameters analysed over the life of the revised Project, which included PM_{10} and $PM_{2.5}$ for health evaluation purposes and dust deposition for nuisance evaluation purposes. Similarly, a review of the noise modelling results at the Private Submitter's residence did not identify any potential exceedances for any of the noise parameters analysed over the life of the revised Project, which included L_{Aeq} and L_{Amax} for nuisance evaluation and sleep disturbance purposes.

To further mitigate risks around air quality management, NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project, which includes the implementation of:

- mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system to provide potential dust risk predictions;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management involving the suspension or modification of mining operations);
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

NAC will deliver its comprehensive air quality management strategy through an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS. .

To further mitigate risks around noise management, NAC has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. This document is located in **Appendix J.11** of the draft EIS. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits.

NAC is more than happy to engage and work with neighbours who possess genuine concerns. NAC has demonstrated during operation of the Mine that it is prepared to work with its neighbours even

when compliance for the issue is demonstrated. NAC wishes to maintain this approach for the revised Project and is currently developing 'Landholder Agreements' for its neighbours to ensure a defined investigation process is available for direct complaints or standard compliance monitoring triggers, and if required, a mitigation process is defined to address the identified problem. At a broader scale, NAC has also produced a LSMP, which again for openness and transparency has been made publically available in **Appendix J.18** of the draft EIS.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life and has worked well for those neighbours who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

Overall, NAC is committed to the delivery of its comprehensive air quality management and noise and vibration management strategies to minimise the potential for adverse air quality and noise and vibration impacts at its neighbours' properties.

In terms of the location of the CHPP Precinct, NAC made a commercial decision to expand the existing CHPP Precinct for the revised Project. Operational, developmental, economic and environmental factors were considered as part of this decision. All major decisions for the revised Project required a rigorous business case and approval by the NHG's senior management and Board of Directors. The final decision on the matter remains 'commercial-in-confidence'. Importantly, all impact assessment work completed for the revised Project was based on the expansion of the CHPP Precinct.

For the Private Submitter's information, operation of the CHPP Precinct is generally a low risk from an air quality perspective because the RoM coal input is moist, the coal washing process is water based, the product coal output is moist (~10%) and all crushers and conveyors possess water based dust suppression systems.

Refer to **Section 5.3.24.5** of the AEIS in relation to the typographical error associated with the stockpiling of coal. There will be no open/exposed coal stockpiles at the TLF.

5.3.24.9 Issue 9

Refer to **Section 5.3.24.8** of the AEIS for the response to this issue.

5.3.24.10 Issue 10

The revised Project represents a continuation of existing mining activities with an ability to increase production capacity to a maximum 7.5 Mtpa. In basic terms, it means as production ceases in the

current South and Centre Pits of the Mine, production will commence in the Manning Vale East, Manning Vale West and Willeroo Pits of the revised Project.

All the key components of the revised Project have been considered as part of the impact assessment process. Similarly, in the past all the key components of the Stage 2 expansion of the Mine were considered as part of that impact assessment process. For example, when a flora survey is conducted it covers the whole project area and not just the pit areas as is inferred by the Private Submitter's comments. Both these impact assessment processes have been heavily scrutinised by State and Commonwealth government agencies.

Over the life of the revised Project, rehabilitation activities will continue within MLs 50170 and 50216, the current infrastructure and administration area will be upgraded and continue to function, tailings disposal will continue within the Centre Pit, and mining activities will commence in the Manning Vale East and Willeroo Pits (i.e. as an overlap onto the new mining lease). These details are clearly outlined in **Chapter 3** of the draft EIS.

Therefore, NAC believes the Private Submitter's concerns and suggestions are outside the approved ToR and would not allow NAC to complete its rehabilitation commitments on ML 50216.

5.3.24.11 Issue 11

The SCL Act will be repealed, pursuant to section 96 of the RPI Act, with the commencement of the RPI Act. The revised Project will have to comply with the requirements of the RPI Act and subordinate legislation.

5.3.24.12 Issue 12

The Private Submitter's claims around the sterilisation of their proposed rural sub-divisions have been made without considering all the facts around the matter. NAC believes the Private Submitter's proposed rural sub-divisions would more likely to be challenged by the TRC on the grounds that approved intensive animal industries are located in the same vicinity or potentially will be in the future. Therefore, the existence of the Mine or the revised Project in the future should not be singled out as the main factor in relation to this matter.

Regardless, NAC believes it can demonstrate that it would remain compliant in relation to its statutory conditions of operation for the revised Project at the proposed rural sub-divisions (i.e. based on current modelling results), and for day-to-day operations, possesses suitable management strategies should any issues arise in relation to the revised Project's operation at its neighbour's properties.

5.3.24.13 Issue 13

In relation to the Private Submitter's concerns about groundwater use, NAC understands that the Eastern Downs area of the Great Artesian Basin is under great stress from many years of over allocation and like other users of groundwater in the area has had a majority of its allocations reduced. NAC commissioned the Wetalla water pipeline for the permanent supply of recycled water to allow 'drought-proofing' of the Mine and the development of the revised Project, which has provided the added advantage of relieving some of the stress experienced by the main deep aquifers of the Eastern

Downs area of the Great Artesian Basin (i.e. the Marburg (Hutton) Sandstone and Helidon (Precipice) Sandstone aquifers).

The use of recycled water by the Mine and in the future by the revised Project demonstrates a proactive approach by NAC to improving the sustainability of its mining operations through the provision of positive environmental, social and economic benefits to the TRC region for a substantial period that will be commensurate with the revised Project's operation. For example, from an environmental perspective, the use of recycled water by NAC is a beneficial use of a waste product under the *Environmental Protection (Waste Management) Regulation 2000* and allows NAC's mining operations to be well prepared for the potential effects of climate change on water supply without applying pressure to other water users in the Acland district. From a social and economic perspective, NAC's purchase of recycled water is providing a significant revenue stream to the TRC, which will benefit the whole community within the TRC local government area.

All other groundwater extraction for the revised Project will be conducted in compliance with the Water Act. NAC and the APC possess a legal entitlement to a defined amount of groundwater extraction. NAC is committed to minimising the revised Project's groundwater impacts through the delivery of its GMIMP, which is provided in **Appendix H** of the AEIS (i.e. as an update version).

As part of the AEIS, NAC has further refined its groundwater modelling based on uncertainty and sensitivity analyses for the IESC. This detailed work has identified a reduction in the predicted impact zone and is provided in **Appendix F** and **Appendix N** of the AEIS.

Importantly, NAC is in the process of developing specific Landowner Agreements for all landholders within the predicted groundwater impact zone that will include legally binding 'Make Good' measures. As outlined in the GMIMP, and to ensure consistency with the Water Act, a complaints process for affected landholders will be set up, and NAC will follow this process to investigate and confirm groundwater impacts following a complaint. Should these investigations confirm the complaint, NAC will reach agreement with affected landholders for 'Make Good' measures.

NAC is committed to ensuring that its neighbours with the potential for groundwater impacts from the revised Project possess a legally binding process to investigate groundwater complaints, and as required, to rectify identified groundwater issues through 'Make Good' measures.

5.3.24.14 Issue 14

Updated groundwater modelling, including a sensitivity and uncertainty analysis, has been undertaken for the revised Project since the public release of the draft EIS and is reported in the IESC Submission presented in **Appendix F** of the AEIS. The updated model has further refined the groundwater impact predictions presented in the draft EIS. The groundwater modelling undertaken in the draft EIS and the subsequent AEIS has included a revision to the assessment of likely impacts post-mining.

Importantly, NAC has committed to 'Make Good' measures for affected landholders as outlined in the draft EIS and the revised Project's GMIMP located in **Appendix H** of the AEIS (i.e. as an update version). As outlined in the GMIMP, and to ensure consistency with the Water Act, a complaints process for affected landholders will be set up, and NAC will follow this process to investigate and

confirm groundwater impacts following a complaint. Should these investigations confirm the complaint, NAC will reach agreement with affected landholders for 'Make Good' measures.

In addition to the complaints process, NAC has already commenced the process of putting Landholder Agreements in place for those landholders that have been identified as having bores that may be impacted by the revised Project. NAC is committed to ensuring that its neighbours with the potential for groundwater impacts from the revised Project possess a legally binding process to investigate groundwater complaints, and as required, to rectify identified groundwater issues through 'Make Good' measures.

NAC is committed to implementing a complaints management process for groundwater issues raised in relation to the revised Project that is consistent with the Water Act. NAC has had initial discussion with DNRM in relation to this matter and will investigate all groundwater complaints related to the revised Project both during the operational phase and following mine closure. For additional information in relation to this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

The revised Project's groundwater EA conditions will concentrate on the protection of the local aquifers, in particular the basalt and coal seam aquifers. The groundwater EA conditions will be based on the detection and prevention of drawdown (levels) and water quality impacts. NAC has recently completed a detailed study following several years of investigations to quantify background limits for key groundwater quality parameters.

The DEHP will be responsible for the regulation of the revised Project's EA. NAC will expand its extensive surface water and groundwater monitoring networks ahead of the revised Project to ensure that a suitable system is established for the early identification of potential adverse impacts and to assist with complaints management.

5.3.24.15 Issue 15

The Mine and the revised Project in the future will have an insignificant impact on the overland flow of water to the Spring/Myall Creek system. Only a small portion overland flow from the northern section of the Mine (and the revised Project) site actually reports to this creek system. All off-site discharges to the Spring/Myall Creek system from the Mine (and the revised Project) are controlled by an environmental dam.

From a geological perspective, mining activities conducted by the revised Project will not directly impact the alluvium associated with Spring/Myall Creek system. Therefore, NAC believes the risk of the revised Project adversely impacting the Private Submitter's bores located in alluvium associated with Spring/Myall Creek system is extremely low.

In addition, NAC has conducted a pump test of one of the Private Submitter's key bores in the alluvium associated with Spring/Myall Creek system (i.e. as part of a Landholder Agreement for Stage One of the Mine). This pump test was used to capture pre-mining background data on the bore. To-date, the Private Submitter has not raised any complaints with NAC in relation to the operation of the Mine and their bore(s) located in alluvium associated with Spring/Myall Creek system.

5.3.24.16 Issue 16

In summary, the revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the analysis indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project.

Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

The revised Project will have a negligible impact on the existing flow regime. Therefore, the impacts of the revised Project on downstream users and the environment are expected to be negligible.

The flood modelling commissioned by NAC was designed to be conservative in nature to simulate potential worst case scenario conditions for set stages over the life of the revised Project. The flood model used is of a recognised standard for impact assessment and is supported by Queensland's main regulatory and assessment body, the DNRM. To increase the veracity of the scientific assessment undertaken for the revised Project's flood modelling, a series of meetings were held with the DNRM, DEHP and the Office of the Coordinator General during the development phase to ensure the modelling inputs, assumptions and methodology were correct; to overview the preliminary results; and to discuss the delivery and presentation of the outputs within the draft EIS. Therefore, NAC believes the flood modelling completed for the revised Project is robust and provides a suitable degree of accuracy for impact assessment purposes.

In general, all depictions of flood modelling within the revised Project's draft EIS are at an appropriate scale to demonstrate the potential impact zones. An arbitrary up stream cut-off point was selected for the provision of the flood modelling results within the revised Project's draft EIS. No flood impacts are predicted upstream of the revised Project.

For additional information regarding this matter, please refer to **Section 5.2.4** of the AEIS and **Chapter 5** of the draft EIS.

5.3.24.17 Issue 17

NAC commissioned the Wetalla water pipeline for the permanent supply of recycled water to allow 'drought-proofing' of the Mine and the development of the revised Project, which has provided the added advantage of relieving some of the stress experienced by the main deep aquifers of the Eastern Downs area of the Great Artesian Basin (i.e. the Marburg (Hutton) Sandstone and Helidon (Precipice) Sandstone aquifers). Importantly, NAC has significantly reduced its dependence on groundwater for mining purposes as a result of the commissioning of the Wetalla water pipeline.

NAC maintains it current groundwater licences for its potable water supply and to provide an emergency water source should the Wetalla pipeline stop operating for an extended period of time. NAC possesses a legal right to maintain these groundwater licences.

The use of recycled water from the WWRF for agricultural purposes by the APC is under development with the construction of special purpose dam for irrigation activities. NAC and the APC will continue to explore opportunities for the use of recycled water for agricultural purposes. However, in general a majority of the recycled water will be required for operation of the revised Project.

5.3.24.18 Issue 18

NAC has prepared a KSMP for the revised Project's operation. The KSMP is provided in **Appendix B** of the AEIS. NAC is committed to the implementation of this plan and the minimisation of adverse impacts on Koala as a result of the operation of the revised Project.

The flora and fauna surveys completed for the revised Project's draft EIS have been accepted by the applicable State and Commonwealth government agencies (i.e. the DEHP and DotE, respectively). NAC has met the requirements of all applicable survey guidelines during its capture of flora and fauna data for the revised Project, which has been confirmed by the DEHP and DotE.

NAC has satisfied the State's and Commonwealth's requirements as part of its assessment of regional ecosystems for the revised Project. This assessment also defines NAC's State and Commonwealth offset requirements for the revised Project.

NAC has regularly engaged with the State and Commonwealth in relation to all these biodiversity related matters.

5.3.24.19 Issue 19

In relation to the Private Submitter's concerns around the Lagoon Creek buffer, NAC wishes to advise that no post-mining landforms are located within Lagoon Creek's PMF flood zone. NAC has nominated realistic buffers either side of Lagoon Creek to ensure a positive ecological outcome and to allow NAC to achieve a positive economic return from the revised Project's adjusted pit areas. These factors will guarantee that the revised Project will deliver a sustainable outcome that benefits the local community. NAC is committed to the protection and enhancement of Lagoon Creek and has developed a CZMP for operation of the revised Project. This document is provided in **Appendix J.6** of the draft EIS.

Importantly, NAC believes its commitment to Lagoon Creek will significantly improve the ecological status of the creek and its riparian zone, which has suffered severe degradation as a result of decades of poor agricultural practices.

5.3.24.20 Issue 20

NAC understands the planned road closures will affect the trip to Acland from the Private Submitter's residence. The Private Submitter's current journey to Acland is 5 kms, which at an average speed of 70 km/h would take approximately 10 minutes. Once the proposed road closures are in place the Private Submitter's journey to Acland will be 35 kms, which at an average speed of 70 km/h would take approximately 30 minutes. The significance of the difference in journey distance and time will be a function of amount of times the Private Submitter travels to Acland per year. NAC will further engage with the Private Submitter to discuss this impact and a possible solution.

Trips to other major centres, such as Oakey or Jondaryan, from the Private Submitter's residence will not be significantly impacted.

Section 5.1.6 of the AEIS provides further discussion in relation to this matter.

5.3.24.21 Issue 21

For the Private Submitter's information, the "Acland-Silverleigh Road" is referenced as the "Acland Road" in **Section 13.3.3** of the draft EIS for the revised Project. Therefore, technically the road is listed and has been considered as part of the impact assessment process. The "Acland Road" is a colloquial name used for the "Acland-Silverleigh Road". NAC acknowledges that the "Acland-Silverleigh Road" may be the preferred road name for some of the long term residents of the Acland district. Regardless, the references are the same road for the purpose of the draft EIS.

5.3.24.22 Issue 22

NAC will work with the bus company and the affected families in an attempt to develop amicable solutions for those school bus routes that may be impacted. **Section 5.1.6** of the AEIS provides further discussion in relation to this matter.

5.3.24.23 Issue 23

NAC acknowledges that noise can be a difficult matter to manage given its sometimes transient nature based on local climatic conditions (i.e. in terms of its time and length of exposure), its nuisance value in relation to sleep disturbance, that different noise receptors possess different sensitivities to different noise sources, and the popular misconception that no noise from a particular noise source should be heard at all.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life and has worked well for those neighbours who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to working with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This approach to noise management was adopted by NAC to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project and has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. As part of the development of the draft EIS, NAC has undertaken a series of meetings with the DEHP and OCG during the noise assessment process to ensure that baseline noise data, modelling assumptions and methodology and presentations of the findings were of an acceptable standard. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS.

NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has nominated an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will assist compliance with the new statutory noise limits and minimise the potential for adverse noise and vibration impacts at its neighbours' properties.

NAC is more than happy to engage and work with neighbours who possess genuine concerns. As explained, NAC has demonstrated during operation of the Mine that it is prepared to work with its neighbours even when compliance for the issue is demonstrated. NAC wishes to maintain this approach for the revised Project and is currently developing 'Landholder Agreements' for its neighbours to ensure a defined investigation process is available for direct complaints or standard compliance monitoring triggers, and if required, a mitigation process is defined to address the identified problem. At a broader scale, NAC has also produced a LSMP, which again for openness and transparency has been made publically available in **Appendix J.18** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.24.24 Issue 24

NAC has nominated 37 dB(A) as the revised Project's night-time limit for mining related noise outside a neighbour's residence to ensure that mining related noise does not exceed 30 dB(A) inside the neighbour's residence. This night-time noise limit for the revised Project is designed to avoid sleep disturbance issues and to allow compliance with the EPP (noise) acoustic quality objectives. This new night-time noise limit for the revised Project is more stringent than the current statutory limit for the Mine of 40 db(A), which was originally based on guidance provided by the World Health Organisation.

For sleep disturbance matters, the WHO (1999) defines a noise reduction from outside to inside of 15 dB(A) for a slightly open bedroom window. The Planning for Noise Control Guideline (EPA 2004) defines a noise reduction from outside to inside of 10 dB(A) for a partially open bedroom window and 5 db(A) for an open bedroom window. As a result, for the revised Project, NAC has nominated 7 dB(A) as the expected reduction in noise levels from outside to inside with a partially open bedroom window. NAC believes its approach to this matter is conservative and is consistent with contemporary noise guidelines.

NAC trust this explanation helps the Private Submitter's concerns around the nomination of 37 dB(A) as the night-time noise limit for the revised Project's noise at nearby sensitive receptors.

Importantly, NAC has completed a conservative noise modelling based on the more stringent noise limits to understand the potential for noise impacts at its near neighbours over the life of the revised Project. To achieve compliance with the new noise limits for the revised Project, NAC will implement a range of leading noise management practices through its Noise and Vibration Management Plan (**Appendix J.11** of the draft EIS). Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will assist compliance with the new statutory noise limits and minimise the potential for adverse noise and vibration impacts at its neighbours' properties.

5.3.24.25 Issue 25

This air quality modelling commissioned by NAC was designed to be conservative in nature to simulate potential worst case scenario conditions for set stages over the life of the revised Project. The air quality model used is of a recognised standard for impact assessment and is supported by Queensland's main regulatory and assessment body, the DEHP. To increase the veracity of the scientific assessment undertaken for the revised Project's air quality modelling, a series of meetings were held with the DEHP and the Office of the Coordinator General during the development phase to ensure the modelling inputs, assumptions and methodology were correct; to overview the preliminary results; and to discuss the delivery and presentation of the outputs within the draft EIS. Therefore, NAC believes the air quality modelling completed for the revised Project is robust and provides a suitable degree of accuracy for impact assessment purposes.

Importantly, the air quality modelling has identified a small number of neighbours who over the life of the revised Project may potentially experience exceedances either in relation to PM_{10} or dust deposition. As expected, these predicted exceedances at near neighbour's residences are influenced by climatic conditions and their location in relation to the proposed mining pits.

Further in relation to interpretation of the modelling results, it should be noted via analysis of the time series plots that the identified exceedances in the majority of cases only occur for a small number of discrete times during the annual period modelled. For example, during 2019, Receptor One's predicted PM_{10} exceedances only happen for three very short and distinct periods over the annual period. Therefore, the predicted exceedances for the revised Project need to be kept in context through analysis of their associated time series plots. More importantly though, the limited number of modelled exceedances and their small number of discrete times of occurrence during an annual period enable NAC to manage the potential air quality exceedances through an effective air quality management strategy.

As a result, NAC has developed a comprehensive air quality management strategy to manage the potential air quality impacts from the revised Project. NAC intends to implement its air quality management strategy through an Air Quality Management Plan that will comprise:

- mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system to provide potential dust risk predictions;

- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management involving the suspension or modification of mining operations);
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

Further details around the air quality modelling for the revised Project are provided in **Chapter 9** of the draft EIS. NAC's Air Quality Management Plan is provided in **Appendix J.10** of the draft EIS. Please note, this plan is one of a suite of management plans for the revised Project that normally would have been developed after approval of the project, but instead have been provided to the public as part of the draft EIS as demonstration of transparency and openness.

In relation to the Private Submitter's reference to the inclusion of a feedlot approval in the revised Project's cumulative impact assessment, NAC advises that the feedlot proposal has not been constructed and will be subject to further feasibility work before commercial development is considered.

5.3.24.26 Issue 26

NAC rejects the Private Submitter's solution based on the information provided in **Section 5.3.24.3** of the AEIS.

5.3.24.27 Issue 27

NAC disagrees with the Private Submitter's comments around consultation. While individual meetings were not held with all landowners surrounding the revised Project, NAC believes there where ample opportunities and/or mechanisms for the Private Submitter to engage with NAC in relation to the revised Project. These consultation opportunities and mechanisms are outlined in **Chapter 19** of the draft EIS.

Following public release of the draft EIS for the revised Project, NAC conducted public consultation events at Jondaryan, Goombungee, Acland and Oakey during February 2014. These events offered the perfect opportunity for the Private Submitter to engage with NAC. NAC is aware that the Private Submitter attended the Acland public meeting for the draft EIS.

In relation to the Mine's consultation program, the Community Liaison Officer and CRG are key initiatives undertaken by NAC in recent years to improve its community engagement strategy. To-date, both initiatives have proved highly successful and are continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

NAC has conducted a number of open community consultation events (public information days) in Oakey for the Mine and revised Project over the past few years, but is unsure whether the Private Submitter has attended these informative events. In general, these open community consultation

events have offered an opportunity for the public to interact with NAC and NHG staff and obtain first-hand information about key aspects of the Mine and revised Project.

For further information on NAC's proposed social impact management (including community engagement strategy) for the revised Project, refer to **Sections 5.1.9 and 5.1.10** and **Appendix E** of the AEIS. For additional information in relation to this issue, please also refer to **Section 5.3.20.1** of the AEIS.

5.3.24.28 Issue 28

NAC believes its consultation effort for the revised Project has been adequate before, during and following the public comment period for the draft EIS. NAC's consultation effort is outlined in **Chapter 19** of the draft EIS. NAC's ongoing consultation strategy for the revised Project is provided in the revised SIMP (**Appendix E** of the AEIS).

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.24.29 Issue 29

NAC acknowledges that over time its property purchases have to an extent, changed the local demographics in the vicinity of the revised Project site. NAC believes the social fabric of the district will re-adjust in time with support. Therefore, NAC is committed to supporting the local community and has developed a SIMP to identify and define the roles of NAC, the government and the community in the mitigation and management of social impacts throughout construction, operation and decommissioning of the revised Project. The SIMP also aims to promote an active and on-going role for communities, local authorities and government throughout the life of the revised Project. The SIMP is provided in a revised format in **Appendix E** of the AEIS. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

In relation to the Private Submitter's claims, NAC believes many are personal opinions lacking in objective evidence, and where evidence is provided, it is statistically weak. For example, the reference to the ABC Stateline program highlights the fact that only four people out of a possible 157 people were involved in the original interview process. In addition, through further consultation and interaction, NAC now also possesses a good relationship with one of the people interviewed.

Furthermore, NAC believes that its land acquisition program has not forced anyone off their properties within Acland or the surrounding district. NAC has negotiated in relation to all land matters and remains committed to achieving a fair and amicable outcome for all parties involved. All property sales conducted to date have provided flexible relocation arrangements to suit the requirements and preferences of affected landholders. NAC also reiterates the fact that the majority of landholders in Acland approached NAC for the sale of their properties to take advantage of a better financial outcome and the opportunity to advance their lifestyle aspirations.

NAC also believes that the population and demographics of Acland and the surrounding district would have changed over time because the area was suffering a similar fate being experienced by much of rural Australia as a result of:

- an aging population; and
- the social migration of young people and families to cities and larger rural centres in search of employment and other lifestyle opportunities.

In addition, small rural towns like Acland continue to suffer from:

- a lack of general facilities and services; and
- their location in relation to larger rural centres which offer a greater degree and diversity of services and facilities. For example in Acland's case, Oakey and Toowoomba.

NAC is committed to the long term maintenance of Acland and has developed the AMP, which outlines the proposed management actions to ensure the protection, maintenance and possible enhancement of items, such as the Tom Doherty Park, the Acland War Memorial and the Acland No.2 Colliery. The AMP is provided in **Appendix I** of the AEIS. Further public consultation is planned as a component of the implementation of the AMP. NAC also possesses a specific management plan for the protection, maintenance and enhancement of the Acland No.2 Colliery. This document is provided in **Appendix J.12** of the draft EIS.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.24.30 Issue 30

The Private Submitter's claim that NAC needs to evaluate 'solastalgia' as part of the revised Project's SIA process is outside the approved ToR issued for the draft EIS. In addition, the Private Submitter has failed to provide objective evidence as to the actual existence of 'solastalgia'. Nevertheless, NAC believes the delivery of its SIMP will manage the revised Project's potential social impacts in an effective manner. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

For additional information regarding this matter, please refer to **Section 5.1.8**, **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.24.31 Issue 31

NAC will implement appropriate education to regulate driver behaviour, in particular in relation to fatigue and alcohol and drug management. NAC's Fitness for Work Policy – Alcohol Management, Fatigue Management and Drug Management are located in **Appendices A.3**, **A.4** and **A.5**, respectively, of the draft EIS. NAC will continue to implement these and other related polices for the revised Project. NAC is committed to employee safety and during the past year have completed the implementation of a company-wide behavioural safety program, which will be an ongoing program into the future. NAC is also committed to community safety and has demonstrated this commitment through significant sponsorship of the CareFlight rescue helicopter service's Toowoomba operations.

The Private Submitter's inference that many workers live considerable distance from the Mine and commute long distances is incorrect. Based on contemporary data (April 2014), 83% of NAC employees live within Toowoomba and the surrounding district. The remainder of NAC employees possess permanent residency elsewhere in the State. However, the majority of these NAC employees would normally live locally during their work periods and return to their place of permanent residency during their work breaks.

5.3.24.32 Issue 32

NAC is aware of localised instances of crime in and around Acland in recent years, particular following the media promotion of the 'closing' of Acland several years ago. NAC believes there was a local aberration caused by criminal opportunists during this period.

In general, crime data provided in **Section 16.12** of the draft EIS highlights an increase in various crimes within the Queensland Police Service Southern Region during 2008 to 2012. Therefore, the Private Submitter's claims around crime may just reflect the general societal trend noted in the Queensland Police Service's crime data.

NAC and the APC will continue to take the necessary actions in an attempt to reduce the potential for criminal activity within the area surrounding the revised Project. NAC is happy to work with its neighbours to help address this issue.

For additional information regarding this matter, please refer to **Section 5.1.10** and **Appendix I** of the AEIS.

5.3.24.33 Issue 33

For development and operation of the revised Project, NAC has addressed the requirements of the approved ToR and its statutory obligations under the *Aboriginal Cultural Heritage Act 2003*. NAC possesses an updated CHMP with the recognised Traditional Owner and is committed to upholding its cultural heritage obligations.

5.3.24.34 Issue 34

The economic modelling completed by NAC for the revised Project complies with the approved ToR, is supported by the State government agency responsible for economic assessment and is a recognised industry standard for economic assessment. The economic model's output in relation to indirect employment is consistent with other modelling and literature on the matter. For further information, NAC suggests that the Private Submitter should visit the website: www.queenslandeconomy.com.au.

For additional information regarding this matter, please refer to **Section 5.1.11** of the AEIS.

5.3.24.35 Issue 35

Ergon Energy as the regional electricity supplier for the Acland district will be solely responsible for management of the adjustments to the electrical distribution network required by the revised Project

for safe and efficient operation. NAC has commenced consultation with Ergon Energy in relation to this matter.

In general, the proposed adjustments to the electrical distribution network will mainly entail the re-routing of certain distribution lines within the Acland district. NAC does not consider that this type of electrical distribution work is out of the ordinary for Ergon Energy or should generate any special problems for the electrical distribution within the Acland district.

The Private Submitter like NAC is a customer of Ergon Energy, and therefore, should consult with Ergon Energy in relation to their concerns around this matter.

5.3.24.36 Issue 36

The APC has selected as the more profitable land use to run dry (non-lactating) cattle that are grown out to sell, as opposed to running breeding cows that are used for the purpose of producing calves. The enterprise chosen for the cattle grazing trials project is growing out steers to feedlot entry weight. This approach is consistent with common commercial land use for the area in the absence of mining (Paton 2014).

The cattle grazing trials project has been designed to record key measures from both rehabilitated mining land, at various ages since rehabilitation, and unmined land, and includes:

- soil depth, structure, fertility and water holding capacities;
- pasture growth, productivity and quality (in cattle grazing exclosures referred to as Swiftsynds);
- pasture presentation yields before cattle graze each paddock;
- pasture leaf quality at each cattle grazing: nitrogen (%), metabolisable energy (MJ/kg) and digestibility (%);
- cattle faecal samples for analysis by NIRS to determine diet quality; and
- cattle weight gains, stocking rates and cattle grazing days in each paddock (Paton 2014).

The APC believes its methodology for the grazing trials project is scientifically sound and is supported by a commensurate level of scientific expertise. The grazing trials project will continue over the life of the revised Project and will involve the ongoing incorporation of new grazing trial sites as rehabilitated land becomes available. The grazing trials project will be modified as required to achieve the best possible scientific outputs to guide future rehabilitation management strategies. NAC has provided further up-to-date details around the APC's grazing trials project in **Section 5.1.2** of the AEIS.

5.3.24.37 Issue 37

An inventory of greenhouse gas emissions for the revised Project was presented in the draft EIS, and as stated in **Section 10.3.3**, greenhouse gas emissions were estimated using published emissions factors including the:

- National Greenhouse Accounts (NGA) Factors (DCCEE, 2012);

- Guidelines for the Implementation Guidelines for the Implementation of NGER Method 2 or 3 for open cut coal mine fugitive GHG Emissions Reporting (ACARP, 2011); and
- IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Agriculture, Forestry and Other Land Use (IPCC, 2006).

Emissions of N_2O from blasting are not reportable under the NGER Act which is consistent with international practice. Current Australian guidelines for the estimating and reporting greenhouse gas emissions including the NGA Factors (DIICCSRTE, 2013a) and NGER Technical Guidelines (DIICCSRTE, 2013b) do not include emission factors for N_2O from blasting.

5.3.24.38 Issue 38

NAC will ensure that the amount of lighting installed for the revised Project is commensurate with what is required for safe and efficient operations. Where appropriate, NAC will install the necessary shielding and directional lights to minimise adverse light spillage, particularly where it may cause safety issues.

NAC has provided its 24 hour contact number to its near neighbours for immediate management of issues, such as light, after hours (i.e. as an instant response tool). NAC has provided its LSMP in **Appendix J.18** of the draft EIS to provide further clarity around its proposed management of issues raised by its neighbours during the development and operation of the revised Project.

NAC does not believe the glow in the night sky during operation of the revised Project will increase significantly above what is currently being experienced near the Mine. NAC understands that this is a subjective issue for individuals that will vary based on personal interpretation. Nevertheless, NAC does not believe this issue will adversely impact on the key areas of safety and sleep disturbance.

NAC has conducted significant consultation with the Commonwealth Department of Defence in relation to future night training exercises conducted from the Oakey Army Aviation Base during development and operation of the revised Project. NAC has developed an AHMP in consultation with the Commonwealth Department of Defence to address this issue. This document is provided in **Appendix J.17** of the draft EIS.

In relation to the Private Submitter's comments around visual impacts from elevated landforms, NAC believes its current and proposed future landform designs are compatible with the surrounding landscape. In addition, NAC also believes in the future that the mining related origins of the rehabilitated landforms will not be discernable to the untrained eye of the general public. NAC works diligently to ensure that its landform designs are as natural as possible, particularly given the operation constraints of minimising the disturbance footprints within a limited mining lease area, managing swell factors during overburden and interburden placement, and complying with statutory conditions of operation that may influence landform design criteria.

5.3.24.39 Issue 39

The main waste products placed in-pit at the Mine are tailings in specialised cells, coarse rejects within the dumped overburden and interburden, and the dumped overburden and interburden. The

tailings are fine grained material generated as a result of the coal washing process and comprise mainly clays and silts. The coarse rejects are coarse material generated as a result of the coal washing process and comprise mainly mudstones, siltstones and sandstones. The overburden is the insitu strata above the coal seams and the interburden is the insitu strata between the coal seams.

In addition, NAC ensures where practical that unweathered material is placed deeper in the pits and weather material is placed closer to the surface (i.e. similar to the sequence it was before extraction). NAC's strip mining and block extraction processes facilitate this outcome. Current experience at the Mine and mine waste characterisation conducted for the revised Project have not identified any geochemical issues associated with the tailings, coarse rejects, overburden and interburden. Further information on the mine waste characterisation can be reviewed in **Section 4.7** of the draft EIS.

NAC intends to mine through the former Acland landfill within the Manning Vale East Pit. To facilitate this action, NAC will transfer the landfill waste to a clay lined cell in one of its pit areas. This proposal will be strictly conditioned and will be designed above the groundwater table. NAC has defined the amount and type of landfill waste and can conclude that this waste is not deemed 'regulated waste' under the *Environmental Protection (Waste Management) Regulation 2000*. The DEHP will regulate this matter. Further information on the management of the former Acland landfill can be reviewed in **Section 4.6.2** of the draft EIS.

NAC has produced a Waste Management Plan that outlines the waste management practices for the revised Project. This document is provided in **Appendix J.13** of the draft EIS.

In relation to the Private Submitter's concerns around subsidence, NAC wishes to advise that subsidence is normally associated with underground mining, in particular longwall underground mining. Underground mining is not considered over the life of the revised Project.

NAC is aware that differential settlement can occur within areas of mine spoil placement (i.e. as a result of the swell factor that occurs when stratum is disturbed from its insitu state). NAC's rehabilitation monitoring regime will identify areas of differential settlement, and as a result, any significant occurrences will be repaired as part of the rehabilitation maintenance process. At the end of the revised Project's mining activities, before NAC can surrender its MLs, it will need to scientifically demonstrate through monitoring data evaluation and other studies that the former mine land is safe, stable and not impacting on the downstream receiving environment. In addition, NAC possesses an economic imperative to achieve this outcome to ensure that the APC's business remains competitive post mining.

5.3.24.40 Issue 40

As discussed in **Section 18.4.1** of the draft EIS, the risk assessment for the revised Project was carried out in accordance with the AS/NZS ISO 31000:2009 Risk Assessment and HB436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004. This International Standard and accompanying handbook provides the principles and guidelines for establishing the context, identification, analysis, treatment and monitoring of risk. The standard is generic, as it recognises that the design of the risk assessment will need to account for the objectives of the analysis, the needs of an organisation and its products and services, and the process and practices used by the

organisation. Therefore, NAC consider the risk assessment provided in **Chapter 18** of the draft EIS is appropriate for the revised Project.

5.3.24.41 Issue 41

NAC has developed a range of management plans for the various environmental values potentially impacted by the revised Project, which are generally provided in **Appendix J** of the draft EIS. In addition, NAC has further updated a small number of its management plans to address the draft EIS submissions from certain State and Commonwealth government agencies. The updated management plans are provided in **Appendices E**, **H**, and **L** of the AEIS. NAC has also generated two new management plans in response to public draft EIS submissions that includes a KSMP and the AMP. These new documents are provided in **Appendices B** and **I**, respectively, of the AEIS.

The management plans developed for the revised Project action a variety of monitoring techniques, depending on the environmental value under evaluation. These monitoring techniques may also vary depending on the type of monitoring parameter and the monitoring timeframe (evaluation period). NAC has adopted the most efficient and effective monitoring techniques to manage the environmental value under evaluation and where practical has implemented leading practice or industry best practice.

Importantly, NAC's monitoring techniques and methodologies are designed to identify the potential impacts from the revised Project in an appropriate timeframe to allow effective management actions to be implemented to mitigate actual impacts. NAC will use certain monitoring data to re-evaluate the accuracy of its modelling over the life of the revised Project (e.g. groundwater drawdown data to re-evaluate the accuracy of the groundwater modelling). NAC's monitoring data may also be used for complaints investigation purposes.

NAC is aware that the DEHP has reviewed various aspects of its proposed monitoring regime for the revised Project. NAC has not received any negative feedback from the DEHP in relation to its proposed monitoring regime for the revised Project.

NAC is currently developing 'Landholder Agreements' for its neighbours to ensure a defined investigation process is available for direct complaints or standard compliance monitoring triggers. At a broader scale, NAC has also produced a LSMP, which again for openness and transparency has been made publically available in **Appendix J.18** of the draft EIS.

Finally, NAC will possess a range of statutory limits for the operation of the revised Project. To ensure compliance, NAC will proactively monitor these limits at strategic locations surrounding the revised Project. NAC believes it will be required to report breaches of these limits to the DEHP during operation of the revised Project.

5.3.24.42 Issue 42

NAC is committed to delivering a comprehensive air quality management strategy for the revised Project that will assist compliance with the ambient air quality objectives in the EPP (Air) and minimise the potential for adverse air quality impacts at its neighbours' properties. To achieve this outcome,

NAC has produced an Air Quality Management Plan (**Appendix J.10** of the draft EIS) for operation of the revised Project.

Similarly, NAC is committed to delivering a comprehensive noise management strategy for the revised Project that will assist compliance with its strict new statutory noise limits and minimise the potential for adverse noise impacts at its neighbours' properties. To achieve this outcome, NAC has produced a Noise and Vibration Management Plan (**Appendix J.11** of the draft EIS) for operation of the revised Project.

NAC will also be required to comply with strict statutory limits for air quality and noise and vibration during operation of the revised Project. The DEHP will be responsible for regulation of this matter and possess stringent enforcement tools under the EP Act for wilful and deliberate breaches of these limits.

5.3.24.43 Issue 43

In consultation with the DEHP, NAC has developed more stringent noise limits for the revised Project based on sound scientific methodology (including conservative modelling) and an accepted formula under current applicable guidelines and State legislation that allow reasonable operation of the revised Project without adversely impacting on its neighbours' noise environment. To help achieve these new noise limits, NAC has committed to attenuating its mining equipment and implementing a Noise and Vibration Management Plan (**Appendix J.11** of the draft EIS) that involves real-time monitoring and adaptive management practices that incorporates modification and/or suspension of certain mining activities until compliance is re-achieved. NAC believes its proposed management of noise for the revised Project involves leading practice and industry best standards.

In the event of a noise issue from the revised Project, NAC has provided its protocols for complaints management and offers a range of contact options (e.g. telephone – normal and afterhours, e-mail , web-links and via the Community Office).

NAC has demonstrated that it is committed to working with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This approach to noise management was adopted by NAC to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment). NAC intends to continue this approach for the revised Project.

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.24.44 Issue 44

The air quality assessment was prepared using the 2011 meteorological dataset. A justification for the use of the 2011 meteorological dataset in the air quality assessment was provided in **Section 9.3.4** of the draft EIS. The analysis of meteorological outputs (windroses) within the modelling domain (**Figure 9-3** of the draft EIS) is consistent with the windroses recorded by the BoM from 2002-2013 (refer to

Figure 9-2 of the draft EIS). The 2011 year had the highest percentage of calms which can lead to poorer atmospheric dispersion. This is considered to be a conservative approach.

5.3.24.45 Issue 45

The 2011/2012 period contained the most amount of air quality monitoring data to undertake a validation study. NAC conducted a monitoring campaign measuring PM_{10} at Balgowan located approximately 2 km northwest of the Mine. For the purposes of the validation study presented in **Appendix G.6.6** of the draft EIS, a 70^{th} percentile 24 hour average PM_{10} from the Balgowan data (13 µg/m^3) presented has been adopted as the background concentration. EPA Victoria (2007) recommends adopting the 70^{th} percentile pollutant concentration to determine cumulative impacts.

The PM_{10} concentrations recorded at Balgowan are presented in **Figure 5.3-A**. The adopted background concentration for the validation study is also presented in **Figure 5.3-A**. Dust monitoring results recorded at Balgowan in 2011/2012 are consistent with long term particulate monitoring results undertaken by NAC. The adopted background PM_{10} concentration of 13 µg/m^3 is considered appropriate to determine potential cumulative impacts of current mining operations.

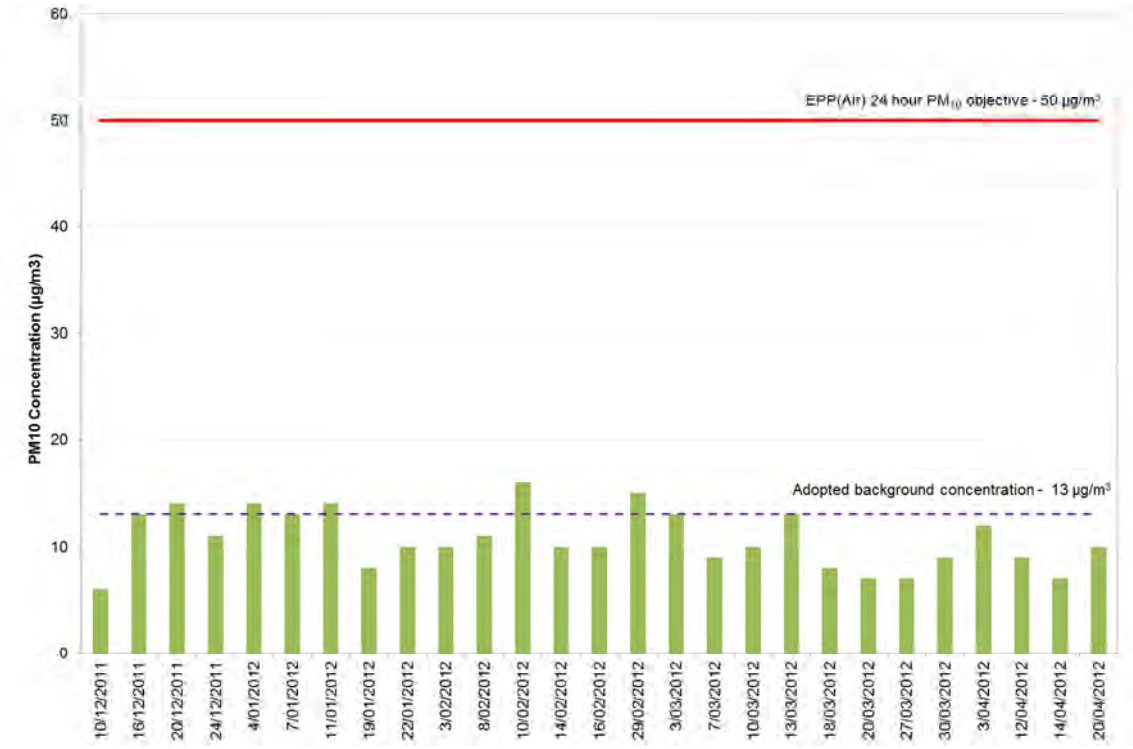

Figure 5.3-A PM_{10} concentrations recorded at Balgowan (µg/m^3) and adopted background concentration

5.3.24.46 Issue 46

The air quality modelling methodology was described in **Section 9.4.3** of the draft EIS. Dust emission rates (modelled using CALPUFF) incorporated wind dependency to allow dust sources to vary with wind speed. Dust emissions for all sources have been considered to fit in one of three categories:

- wind insensitive sources, where emissions do not vary with wind speed (for example, trucks transporting overburden over unsealed roads);
- wind sensitive sources, where emissions vary with the hourly wind speed, raised to the power of 1.3 (for example, loading and unloading coal from trucks); and
- wind erosion sources, where emissions vary with the wind speed, raised to the power of 3 (for example, wind erosion from stockpiles, overburden dumps or active pits).

5.3.24.47 Issue 47

The volume source parameters were incorrectly displayed in **Table 9.15** of the draft EIS. The vertical and horizontal spread parameters were incorrectly labelled. A corrected version of **Table 9.15** is included in the Errata section (**Chapter 6**) of the AEIS. The actual vertical spread parameters used in for air quality dispersion are much lower than presented in **Table 9.15** of the draft EIS.

Dust from mining operations is result of mechanical forces that generate local turbulence. These mechanical forces generate localised turbulence and the resulting dust plumes are observed to have

vertical spreads of approximately 20 m. Blast plumes are observed to have a vertical spread of 150 m (Attalla *et al*. 2007). The volume source parameters recommended in the submission are considered overly conservative.

The potential air quality impacts for current operations have been predicted using these volume source parameters and compared to air quality monitoring data at the Mine. The modelling methodology adopted for the air quality assessment of the revised Project generally has over predicted air quality impacts for current operations at the Mine. The model results are consistent with findings from published comparisons of predicted particulate concentrations with modelling data (Holmes and Lakmaker, 2007; Bridgman et al. 2002). It was recognised there is some uncertainty associated with computer-based air dispersion models in **Section 9.4.5** of the draft EIS.

The modelling assessment has identified there is potential for air quality impacts associated with the revised Project. NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- mitigation measures to minimise dust emissions;
- a dust forecasting system;
- a range of air quality monitoring techniques (including real time monitoring);
- adaptive air quality management including the suspension or modification of mining activities to reduce dust emissions ;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The revised Project is expected to comply with the ambient air quality objectives in the EPP (Air) provided NAC successfully implement the proposed air quality management strategy.

5.3.24.48 Issue 48

The air quality assessment presented in **Chapter 9** of the EIS has considered three different particle sizes for air dispersion modelling.

- particles with an equivalent aerodynamic diameter greater than 10 µm;
- particles with an equivalent aerodynamic diameter between 2.5 and 10 µm; and
- particles with an equivalent aerodynamic diameter less than 2.5 µm.

An ideal size distribution of airborne particulates by mass is presented in **Figure 5.3-B**. **The** coarse particles are produced through mechanical processes with potential sources including wind-blown dust and mining operations. Particulates generated from mining operations of the revised Project are predominantly coarse.

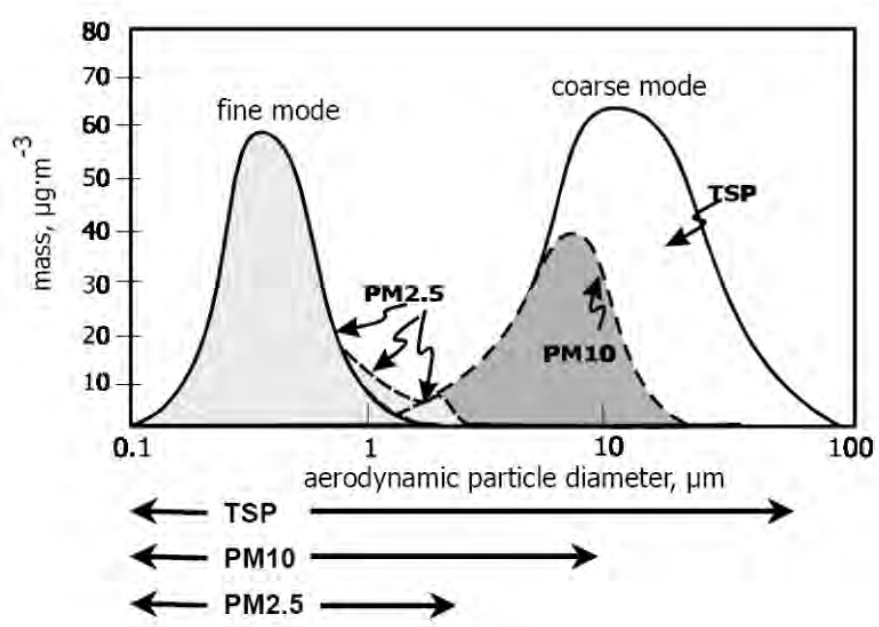

Figure 5.3-B Ideal size distribution of particle mass

The modelling parameters for each particle size were presented in **Table 9-16** of the draft EIS. The mean particle diameter in **Table 9-16** of the draft EIS represents the geometric mean mass diameter for modelling purposes. The geometric mean mass diameter and geometric standard deviation have been adopted based on a typical size distribution for coarse particles.

The potential air quality impacts for current operations have been predicted using the parameters for different particle size fractions in **Table 9-16** of the draft EIS and compared air quality monitoring data recorded for current operations at the Mine. The modelling methodology adopted for the air quality assessment of the revised Project generally has over predicted air quality impacts for current operations at the Mine. The model results are consistent with findings from published comparisons of predicted particulate concentrations with modelling data (Holmes and Lakmaker, 2007; Bridgman *et al.* 2002). It was recognised there is some uncertainty associated with computer-based air dispersion models in **Section 9.4.5** of the draft EIS.

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- mitigation measures to minimise dust emissions;
- a dust forecasting system;
- a range of air quality monitoring techniques (including real time monitoring);

- adaptive air quality management including the suspension or modification of mining activities to reduce dust emissions ;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The revised Project is expected to comply with the ambient air quality objectives in the EPP (Air) provided NAC successfully implement the proposed air quality management strategy.

5.3.24.49 Issue 49

As stated in the Modelling Methodology of **Appendix G.6.6** of the draft EIS, a one year (July 2011 to June 2012) meteorological dataset for wind speed and wind direction, air temperature, relative humidity, mixing height and other micro-meteorological variable was prepared for the study area using the CALMET meteorological model.

The meteorological data provided by the BoM for Oakey has recorded 520 mm of rain from 1 July 2011 to 30 June 2012. The rainfall recorded in this period is less than the long term annual average rainfall of 634 mm reported **Table 9-2** of the draft EIS. Dust monitoring results recorded in Acland and Balgowan in 2011/2012 are consistent with long term particulate monitoring results.

Rainfall was not used as an input to estimating dust emissions or for air dispersion modelling (no wet deposition). The rainfall in 2011 has had no influence on the modelling results.

The validation study used the 70th percentile 24 hour average PM_{10} from the Balgowan data (13 µg/m^3) to set background air quality. The air quality assessment adopted the 70th percentile PM_{10} 24 hour average concentration from the Mine's air quality monitoring program. The difference between the background levels is insignificant.

5.3.25 Private Submitter 318

5.3.25.1 Issue 1

The SCL Act will be repealed, pursuant to section 96 of the RPI Act, with the commencement of the RPI Act. The revised Project will have to comply with the requirements of the RPI Act and subordinate legislation.

In addition, NAC is committed to returning the post mined land to the highest possible grazing production to allow its re-incorporation into the APC's business (i.e. for a long term sustainable rehabilitation outcome). The APC is assisting in the Mine's rehabilitation process and will continue this practice for the revised Project. The APC has commenced a grazing trials project to guide future rehabilitation and grazing management practices. The latest results of the grazing trials project is provided in **Section 5.1.2** of the AEIS.

NAC is committed to minimising the revised Project's impacts to land and is proposing to batter down the slopes of the residual voids to create depressed landforms. This approach will allow limited grazing to be conduct within these areas. Alternatively, NAC may also consider establishment of

native habitat within these areas to add to its planned ecological benefits for the Acland district, which include the protection and enhancement of Lagoon Creek's riparian zone and Bottle Tree Hill. This will be a future commercial decision by the APC and NAC following completion of the revised Project.

NAC believes it can return the post mined land to a productive and profitable grazing state. NAC is committed to a sustainable approach to its mining operations and together with the APC's support will ensure the post mined land is in suitable condition for commercial use by the APC. Therefore, there is a long term business incentive within the NHG to make sure this goal is achieved at the cessation of the revised Project's mining activities.

NAC understands that there will be a reduction in agricultural productivity within the revised Project's area. However, NAC believes the economic benefits of mining significantly outweigh the reduced agricultural productivity. Importantly, agricultural production will continue within the revised Project area following mining as a result of the APC's commercial agricultural business. This difference in economic benefits is clearly provided in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

In summary, NAC believes mining is a suitable land use for the Acland district, based on its responsible land management and sustainable mining practices, its commitment to return the former mined land to a productive agricultural state, and the significant economic benefits that will be gained from mining the coal resource over the life of the revised Project. NAC also believes the economic evidence clearly supports the operation of the revised Project (i.e. the positive benefits outweigh the negative impacts).

5.3.25.2 Issue 2

NAC has achieved a high level of accuracy from the groundwater modelling work completed for the revised Project's draft EIS and AEIS. As a key local and regional issue, NAC's groundwater modelling has been scrutinised by the lead Commonwealth and State agencies. For the AEIS, NAC's groundwater model for the revised Project underwent further sensitivity and uncertainty analysis and was reviewed by a third party expert to verify the methodology, the accuracy and the results. The findings of this work are provided in **Appendices F** and **N** of the AEIS. In addition, NAC has updated its GMIMP based on the outcomes from the additional groundwater modelling work completed for the revised Project's AEIS. This document is provided in **Appendix H** of the AEIS.

Therefore, NAC believes it has addressed the Private Submitter's concerns in relation to potential adverse impacts on the basalt aquifer at their property as a result of the revised Project.

NAC is happy to re-engage the Private Submitter on this matter and facilitate a landholder bore survey at their property. NAC is committed for the revised Project to providing certainty to its neighbours by ensuring a legally binding mechanism is available to investigate groundwater complaints and to implement 'Make Good' measures where a groundwater issue is identified.

NAC will negotiate all 'Make Good' measures with its neighbours and pay all costs associated with the agreed 'Make Good' measure(s). NAC will ensure a dispute resolution mechanism is available for neighbours if they feel aggrieved by the negotiation process for 'Make Good' measures. These components will be included in the proposed Landholder Agreements.

NAC is committed to implementing a complaints management process for groundwater issues raised in relation to the revised Project that is consistent with the Water Act. NAC has had initial discussion with DNRM in relation to this matter and will investigate all groundwater complaints related to the revised Project both during the operational phase and following mine closure. Therefore, NAC offers the Private Submitter the opportunity to participate in the development of a Landholder Agreement for the revised Project to provide further certainty around groundwater impact management (i.e. as a specific clause).

For additional information regarding this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.25.3 Issue 3

This air quality modelling commissioned by NAC was designed to be conservative in nature to simulate potential worst case scenario conditions for set stages over the life of the revised Project. The air quality model used is of a recognised standard for impact assessment and is supported by Queensland's main regulatory and assessment body, the DEHP. To increase the veracity of the scientific assessment undertaken for the revised Project's air quality modelling, a series of meetings were held with the DEHP and the Office of the Coordinator General during the development phase to ensure the modelling inputs, assumptions and methodology were correct; to overview the preliminary results; and to discuss the delivery and presentation of the outputs within the draft EIS. Therefore, NAC believes the air quality modelling completed for the revised Project is robust and provides a suitable degree of accuracy for impact assessment purposes.

A review of the air quality modelling results at the Private Submitter's residence did not identify any potential exceedances for any of the air quality parameters analysed over the life of the revised Project, which included PM_{10} and $PM_{2.5}$ for health evaluation purposes and dust deposition for nuisance evaluation purposes. Further details around the air quality modelling for the revised Project are provided in **Chapter 9** of the draft EIS.

NAC has developed a comprehensive air quality management strategy to manage the potential air quality impacts from the revised Project. NAC intends to implement its air quality management strategy through an Air Quality Management Plan that will comprise:

- mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system to provide potential dust risk predictions;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management involving the suspension or modification of mining operations);
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

NAC's Air Quality Management Plan is provided in **Appendix J.10** of the draft EIS. Please note, this plan is one of a suite of management plans for the revised Project that normally would have been

developed should approval be granted for the revised Project, but instead have been provided to the public as part of the draft EIS as demonstration of transparency and openness.

Therefore, in relation to the Private Submitter's air quality concerns, NAC believes the risk of the stated impacts is negligible and it possesses a suitable regime to manage potential air quality impacts from the revised Project.

To-date, NAC has not identified through monitoring and testing or complaints, any specific issues in relation to dust from the Mine (Stage 1 and 2) impacting local rainwater quality and/or agricultural production, including intensive agriculture (e.g. piggery). **Chapter 9** of the draft EIS provides further discussion in relation to these matters.

NAC again offers the Private Submitter the opportunity to participate in the development of a Landholder Agreement for the revised Project to provide further certainty around air quality impact management (i.e. as a specific clause).

5.3.25.4 Issue 4

NAC currently employs approximately 300 people at the Mine. Employment for the revised Project is expected to average around 412. A significant number of indirect jobs will also continue to be created through the use of local support industries and through local expenditure as part of day-to-day living by NAC's employees, who on average generally possess a higher household income.

NAC's total expenditure over the life of the revised Project is estimated at $6.6 billion. The equivalent loss of agricultural value during the same period is estimated at $29.6 million. Therefore, from a pure economic perspective, the revised Project possesses a significant benefit despite the short term loss of agricultural production. Explanation around the development of these figures is located in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

Importantly, as a result the NHG's sustainability vision and holistic approach to land management within the Acland district, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and agricultural production at the cessation of mining in the Acland district. The APC as a larger farming business in the Acland district will also possess the advantage of 'economies of scale' through the amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends within the agricultural sector (Hooper et. al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

In general, NAC believes the economic evaluation of the revised Project's operation has been sound and consistent with economic assessments conducted for other resource projects. NAC's economic assessment for the revised Project has been subject to regulatory scrutiny by the State government and has been deemed acceptable.

5.3.26 Private Submitter 331

5.3.26.1 Issue 1

NAC's surface water management is based on protection of the downstream receiving environment and is designed to ensure all discharges comply with the revised Project's strict statutory discharge limits. NAC will expand its already extensive surface water monitoring regime as a critical tool for the purposes of impact identification, compliance assessment and complaints management.

NAC's surface water management on site is designed to minimise the potential for offsite discharge by the use of an efficient capture and containment strategy and the preferential use of captured surface water for dust suppression and other mine related purposes to maintain an adequate design storage allowance for the wet season (i.e. to minimise the risk of off site discharges). Detail on a range of surface water management measures for the revised Project, including the use of dams, is provided in **Section 5.14.2** of the draft EIS. Additional surface water management information is also provided in NAC's Water Resources Management Plan for the revised Project located in **Appendix J.4** of the draft EIS.

NAC has completed water balance modelling for the revised Project demonstrates to understand the risk of discharge from the life of operations of revised Project. Further details on the revised Project's water balance can be located in **Section 5.13.4** of the draft EIS. NAC maintains an operational water balance model as part of its day-to-day operations to assist general water management. This practice will continue over the life of the revised Project.

From a regulatory perspective, NAC's EA for the revised Project will possess strict conditions designed for the protection of the local surface water and groundwater environments. The revised Project's surface water EA conditions as a minimum will include discharge limits for key water quality parameters, specification of discharge points, require quantification of background limits for key water quality parameters, require update of the site's water management plan and specify monitoring requirements for offsite discharges. In addition, a comprehensive range of EA conditions will be dedicated to tailings management and will focus on all stages of development, including design and construction, general operation and future rehabilitation.

In relation to flooding within Jondaryan, the potential impact of the revised Project on flooding on Jondaryan and Oakey was presented in **Chapter 5** of the draft EIS.

As stated in **Section 5.11.3** of the draft EIS, there is no increase in the extent of inundation or water surface levels on any properties not owned by NAC. Downstream of the new railway crossing there is a minor decrease in flood levels of approximately 0.2 m, a result of the railway embankment which attenuates the flood peak.

Section 5.11.3 of the draft EIS examined the changes to the duration of flooding and flood warning for Jondaryan. **Figure 5-19** of the draft EIS illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-19** of the draft EIS illustrates that there is predicted to be a very minor increase in the time prior to the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway

crossings. It is therefore considered that the revised Project will not have significant impacts on flood warning in Jondaryan.

The township of Oakey is upstream of the Lagoon Creek and Oakey Creek confluence on a separate tributary to that of Lagoon Creek. As no impacts are predicted at Jondaryan there will be no flooding impacts at Oakey.

5.3.27 Private Submitter 368

5.3.27.1 Issue 1

In relation to flooding within Jondaryan, the potential impact of the revised Project on flooding on Jondaryan and Oakey was presented in **Chapter 5** of the draft EIS. As stated in **Section 5.11.3** of the draft EIS, there is no increase in the extent of inundation or water surface levels on any properties not owned by NAC. Downstream of the new railway crossing there is a minor decrease in flood levels of approximately 0.2 m, a result of the railway embankment which attenuates the flood peak.

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The township of Oakey is upstream of the Lagoon Creek and Oakey Creek confluence on a separate tributary to that of Lagoon Creek. As no impacts are predicted at Jondaryan there will be no flooding impacts at Oakey.

In relation to Doctors Creek, the revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2% of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek.

The flooding assessment undertaken in the EIS covers Lagoon Creek to Jondaryan. The highest point between Lagoon Creek and Doctors Creek near Jondaryan is 8 m higher than Doctors Creek. Therefore, Lagoon Creek and Doctors Creek are considered to be independent in their flooding regimes and the assessment of flooding in a flood model for Doctors Creek is not considered to be required for the draft EIS.

In summary the revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood

levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.27.2 Issue 2

In response to the Private Submitter's concerns about the continued operation of the JRLF and the associated potential for adverse dust impacts, NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals.

If the main statutory approvals for the revised Project are granted during 2015, a further two years will be required to construct the new rail spur and balloon loop, TLF and MHF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of these new structures is expected during 2017, which will allow the cessation of train loading activities at the JRLF. Decommissioning and rehabilitation of the JLRF will then be conducted between 2017 and 2019. Further details on the decommissioning strategy for the JRLF are provided in **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

In relation to the Private Submitter's concerns about dust from operation of the JLRF, NAC will continue to employ an array of dust mitigation actions at the facility until decommissioning is completed. Some of the dust mitigation completed to-date at the JRLF have included:

- constructing a new domestic product coal pad further away from Jondaryan (i.e. as a high movement pad);
- sealing of high volume roadways (which conveys 75% of onsite traffic);
- introduction of a larger water truck;
- execution of the key findings of a traffic direction study (QMI Solutions 2009) to minimise fugitive dust generation from traffic movements (i.e. by controlling the level and direction of traffic movements and minimising turning requirements for truck traffic);
- increasing the size of the main dam on site to improve water capture and storage for dust suppression purposes;
- construction of a grassed berm on the upwind side of the new domestic product coal pad to minimise the generation of windborne dust (i.e. in relation to the main prevailing wind direction);
- upgrading of the bore pump on site and its power supply to improve water extraction (rate and reliability) for dust suppression purposes;
- planting of additional trees strategically around the main stockpile pad area and to the east of the domestic product coal pad to act as windbreaks; and
- implementing a real-time air quality monitoring system within Jondaryan combined with adaptive management practices that may stop or reduce operations at the JRLF based on the real-time monitoring data.

NAC will maintain its advanced real-time air quality monitoring within Jondaryan until decommissioning is completed. As explained, the results of the real-time air quality monitoring system are used to trigger stringent management measures at the JRLF should air quality limits be exceeded within Jondaryan. NAC will also continue to report the results of this monitoring on a regular basis to the Jondaryan residents, the wider public and the DEHP (main regulatory authority). NAC's real-time monitoring system involves the use of TEOMS to measure total suspended particulates on a continuous basis within Jondaryan. This form of air quality monitoring is considered leading practice by the regulatory authorities.

NAC has worked with the JDRA to address the Jondaryan residents' concerns in relation to the JRLF and has involved individual residents in specific studies into rainwater tank water quality and the presence of coal in deposited dust with rainwater tanks and on opens surfaces. In summary, these additional studies have not identified any significant environmental or other issues in relation to the operation of the JLRF.

From a health perspective, NAC continues its quarterly PM_{10} particulate (respirable dust) monitoring and has completed a correlation study to help predict real-time PM_{10} levels from the TEOM data. In summary, this monitoring has not demonstrated that the operation of the JRLF is impacting on the respiratory health of the Jondaryan community from airborne particulates. An independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates.

To help address community concerns, in recent times NAC has significantly reduced the amount of product coal stockpiled at the JRLF to well below the facility's approved capacity, and under normal operational circumstances (e.g. no extended rail outages), intends to continue this management practice at the JRLF until the cessation train loading activities. This management approach by NAC will ensure that the potential for noise and air quality impacts are further minimised through the reduction in equipment usage (e.g. dozer pushes on the stockpiles).

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

For further information on this issue, also refer to **Section 5.3.35.3** of the AEIS.

5.3.27.3 Issue 3

The Jondaryan noise environment is subject to multiple noise sources. For example, extensive vehicular movements along the adjacent Warrego Highway, rail traffic along the adjacent Western Railway line, operation of the JRLF and a range of other sources that would vary over the year (e.g. insect, domestic and aviation activities). The intensity of these sources would be affected by the level of activity and weather patterns, particularly prevailing temperature and wind conditions.

During 2010, NAC introduced noise monitoring to assess the compliance status of the JRLF's operations at the nearest sensitive receptor in Jondaryan. The noise monitoring is undertaken on a monthly basis and for sensitivity reasons involves the assessment of the noise environment during the

evening/night period. The date and time is selected randomly and varies each month. The JRLF's operators are unaware of the scheduling of each noise monitoring event to ensure a 'blind test' methodology. This monitoring has helped quantify the impact of the other potential noise sources in the area.

Where practical, machine usage during the night time period at the JRLF is kept to an operational minimum. The JRLF operates as a 24 hour, seven days per week operation to address Aurizon's train scheduling requirements. Several years ago, NAC redesigned the JRLF's layout for the Project to minimise the potential for noise impacts within Jondaryan. This redesign has allowed NAC to significantly reduce the use of nosier equipment, such as dozers. On mobile equipment, NAC has reduced the sound power level of all reversing beepers on-site to their minimum setting and has installed the less intrusive 'cicada' type alarms. NAC's current stockpile management regime at the JRLF is designed to keep product coal stockpiles at an operational minimum for train loading purposes. Importantly, this management approach reduces the amount of associated equipment movements and decreases the potential for the production of fugitive noise emissions that may cause noise impacts (e.g. dozer activities on the stockpiles).

Noise issues in relation to the Western Railway line are under Aurizon's jurisdiction and management. Therefore, it is suggested that all noise concerns about rail transport be raised directly with Aurizon. Longer term, NAC will use these monitoring results to continuously review its compliance status and to develop new and modify existing mitigation strategies to minimise potential adverse noise impacts from the JRLF's operations affecting Jondaryan. NAC is committed to operating the JLRF in compliance with the noise conditions of its EA up until closure of the facility.

NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals. If the main statutory approvals for the revised Project are granted during 2015, a further two years will be required to construct the new rail spur and balloon loop, TLF and MHF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of these new structures is expected during 2017, which will allow the cessation of train loading activities at the JRLF. Decommissioning and rehabilitation of the JLRF will then be conducted between 2017 and 2019.

Further details on the decommissioning strategy for the JRLF are provided in **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

5.3.27.4 Issue 4

NAC is committed to decommissioning the facility as soon as it is practically feasible following grant of the revised Project's statutory approvals. Therefore, there will be no increase in coal truck movements from the Mine to the JRLF prior to or following grant of the revised Project's statutory approvals.

NAC is committed to decommissioning the JRLF as soon as it is practically feasible following grant of the revised Project's statutory approvals. Once the new rail spur and balloon loop, TLF and MHF are constructed and commissioned, coal truck movements from the Mine to the JRLF and operation of the JRLF will cease. Decommissioning and rehabilitation of the JLRF will then be conducted. Further

details on the decommissioning strategy for the JRLF are provided in **Section 3.11.1** of the draft EIS and **Section 5.1.4** of the AEIS.

5.3.27.5 Issue 5

The revised Project like the current mining operations at the Mine will be required to comply with strict air quality limits under the EP Act. These air quality limits have been developed from air quality guidelines that are specified by the DEHP in the EPP (Air). The purpose of the EPP (Air) is to protect the air quality environment for human health and wellbeing, the health and biodiversity of ecosystems, the aesthetics of the environment and for agricultural use.

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan.

NAC has worked with the JDRA to address the Jondaryan residents' concerns in relation to the JRLF and has involved individual residents in specific studies into rainwater tank water quality and the presence of coal in deposited dust with rainwater tanks and on opens surfaces. In summary, these additional studies have not identified any significant environmental or other issues in relation to the operation of the JLRF.

From a health perspective, NAC continues its quarterly PM_{10} particulate (respirable dust) monitoring and has completed a correlation study to help predict real-time PM_{10} levels from the TEOM data. In summary, this monitoring has not demonstrated that the operation of the JRLF is impacting on the respiratory health of the Jondaryan community from airborne particulates. An independent PM_{10} monitoring campaign by the DNRM within Jondaryan during 2011 did not identify any significant levels of PM_{10} particulates

For further information regarding this matter, please refer to **Section 5.1.4**, **Section 5.1.8** and **Section 5.3.27.2** of the AEIS.

5.3.28 Private Submitter 393

5.3.28.1 Issue 1

NAC acknowledges the concerns raised by the Private Submitter. Under the revised Project, NAC has provided a significantly reduced scope to that presented for the original proposal. In preparing the EIS document, NAC carefully followed and addressed the ToR set by the Office of the Coordinator General. This involved a variety of environmental assessments which included comprehensive field surveys and modelling exercises to predict the potential impacts of the revised Project on environmental values. In doing so, NAC utilised processes and methodologies that are recognised industry standards. For instance, air and noise modelling was conducted over a variety of scenarios for the life of the mine including the modelling of worst case scenarios. When completing the surface water flood modelling, PMF (probable maximum flood) scenario was modelled. In addition, NAC have committed to the implementation of a variety of management plans for the revised Project. These plans are located in **Appendix J** of the draft EIS.

Furthermore, NAC will be required to comply with strict statutory limits for amongst other things, air quality and noise. These statutory limits are enforced by the DEHP under the EP Act, and therefore, carry significant penalties for deliberate or persistent breaches. These statutory limits are also designed to protect the environment, reduce nuisance factors, prevent health based issues and allow near neighbours to maintain their lifestyle.

For additional information regarding this matter, please refer to **Section 5.3.44.2** , **Section 5.3.44.3, 5.3.44.4, Section 5.3.44.10, Section 5.3.44.36, Section 5.3.44.39, Section 5.3.44.40, Section 5.3.49.1, Section 5.3.51.1, Section 5.3.51.23** and **Appendix D** of the AEIS.

NAC has significantly increased its engagement with stakeholder regarding the revised Project, for additional information please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.28.2 Issue 2

In order to meet strict EA conditions to be set by the DEHP, NAC has implemented a variety of operational measures. For instance, (Refer to **Section 5.2.45.2** of the AEIS) it is envisaged that the Manning Vale East pit blocks closest to Acland will operate on a daytime only basis, unless adaptive monitoring of key environmental constraints allow otherwise. The Manning Vale East Pit will be closely monitored and managed to satisfy noise constraints at Acland and may include mitigation steps such as the reduction or cessation of mining operations during heightened sensitive periods. A comprehensive road assessment was conducted for the draft EIS and is located in **Chapter 13** of the draft EIS. Furthermore, additional information regarding this matter is presented in **Section 5.1.6** and **Section 5.2.3** of the AEIS.

With regard to dust and noise issues, please refer to **Section 5.3.28.1** of the AEIS.

5.3.29 Private Submitter 399

5.3.29.1 Issue 1

NAC currently employs approximately 300 people at the Mine. Employment for the revised Project is expected to average around 412. A significant number of indirect jobs will also continue to be created through the use of local support industries and through local expenditure as part of day-to-day living by NAC's employees, who on average generally possess a higher household income.

NAC's total expenditure over the life of the revised Project is estimated at $6.6 billion. The equivalent loss of agricultural value during the same period is estimated at $34.3 million. Therefore, from a pure economic perspective, the revised Project possesses a significant benefit despite the short term loss of agricultural production. Explanation around the development of these figures is located in **Chapter 17** of the draft EIS.

Importantly, as a result the NHG's sustainability vision and holistic approach to land management within the Acland district, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and agricultural production at the cessation of mining in the Acland district. The APC as a larger farming business in the Acland district will also possess the advantage of 'economies of scale' through the

amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends in recent within the agricultural sector (Hooper et. al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

Therefore, NAC disagrees with the Private Submitter's assertions and claims around misrepresentation of economic data that was used for the economic assessment for the revised Project. For additional information regarding this matter, please refer to **Section 5.2.11** of the AEIS.

5.3.29.2 Issue 2

As discussed in **Section 5.1.11** of the AEIS, the ToR for the revised Project did not specify a modelling approach which should be adopted for the economic assessment. Input-Output (IO) modelling was therefore selected as a commonly used tool within industry for estimating economic impacts for projects of this nature. This approach is most common for relatively small investments such as for the revised Project, which is an expansion of existing operations. The alternative tool, Computer Generated Equilibrium (CGE) typically requires relatively large 'shocks' (investment expenditure) to produce meaningful results.

Key model inputs included a detailed breakdown of project expenditure and estimated direct employment requirements. Given that this is an expansion of an existing project, this input data is based on prior experience and lessons learnt. As such, the direct economic output and direct employment estimates are reasonably certain if the revised Project goes ahead. However, as noted above, the estimates do not necessarily represent 'generated impact' but rather potential impacts if labour and resources are not constrained.

To improve the accuracy of the IO assessment, the following additional key assumptions have been captured in the model:

- Expenditure which is known to be imported from overseas locations has been removed from the revised Project's expenditure allowing for the assessment of potential impacts on the domestic economy only. In addition, a direct allocation of imports method is used. Therefore, where expenditure is allocated to industries with typically high dependencies on imports (such as for example, vehicle manufacturing), the IO model estimates impacts for the domestic economy only.
- Royalties and taxes have been excluded from the analysis as they represent a transfer payment which is already captured in the economic impacts.

An outline of the adjustments to the estimate of impacts from the revised Project expenditure is contained in **Section 5.1.11** of the AEIS. **Section 5.2.4** of the AEIS provides an update to the impacts on agricultural land.

5.3.29.3 Issue 3

For information regarding this matter, please refer to **Section 5.1.11** of the AEIS.

5.3.29.4 Issue 4

As described in **Section 17.2.3**, **17.3.1**, and **17.4** of the draft EIS the New Acland Mine currently employs 300 full time workers within the regional study area, of which approximately 35 % reside within the local study. This equates to 105 workers out of 1,887 employed persons in the local study area, as shown in **Table 17-4**.

Table 17-4 provides selected statistics outlining the labour force status for the local and regional study areas, based on 2011 census recorded information. The data shows that in 2011, the unemployment rate in both the local and regional study areas was lower than the Queensland average, at 4.8 % and 4.6 % respectively compared to 6.1 %.

Table 17-5 provides recorded occupations for the local and regional study areas in 2011 and shows occupational composition in the local and regional study areas compared to the Queensland average. **Table 17-6** provides industry of employment as a proportion of total employed residents in the local and regional study areas compared to Queensland.

For additional information regarding this matter, please refer to **Section 5.1.11.** of the AEIS.

5.3.29.5 Issue 5

The importance of the agricultural industry to the local and regional study areas is outlined in the **Chapter 17** of the draft EIS. However, it is more important to consider the opportunity cost of the development of the revised Project (impact on agricultural output) then to compare to the overall industry contribution, since the majority of agricultural activity in the local study area will not be displaced. In this regard, the contribution to the economy of the revised Project is likely to exceed the impact on agricultural output and employment. The estimated impact on agricultural output and employment has been revised for the AEIS, and is located in **Section 5.1.11.5** of the AEIS.

The contribution that the existing mine makes to employment (which would be displaced without the revised Project) is not relevant to the discussion of specialisation ratios. The EIS highlights that these workers would potentially be displaced, causing rising unemployment which is estimated to exceed the impact from displaced agricultural output, since there is no guarantee that existing workers would find employment in the agricultural or other industries.

For information regarding this matter, please refer to **Section 5.1.11.5** of the AEIS.

5.3.29.6 Issue 6

As noted by the Private Submitter, the economic assessment acknowledges the limitations associated with IO modelling. It is not possible to determine the extent to which impacts may be overstated. Therefore as a conservative measure, the AEIS removes induced impacts from the estimate of economic impacts.

The draft EIS considers the economic costs associated with potentially displaced agricultural output, the impact of which has been updated in **Section 5.1.11.5** of the AEIS. The ToR for the assessment does not include an assessment on royalties and taxes, government assistance and subsidies;

however these payments represent transfer payments and would not alter the overall economic impact.

For additional information regarding health and environmental impacts please refer to **Section 5.1** of the AEIS.

5.3.30 Private Submitter 418

5.3.30.1 Issue 1

The APC estimates that up to 5,376 ha of the acquired grazing land located outside the disturbance footprint will still be available for grazing. As such the total impacted grazing land is estimated at 1,000 ha of the 6,376 ha of the acquired grazing land. The total impacted SCL is estimated at 1,361 ha, and comprises mixed uses of sorghum, mung beans, sunflowers, maize and wheat, which have been distributed evenly across the impacted area. 2,500 pigs from piggeries on site were also disturbed from acquisition for the revised Project.

Table 5.3-C Impacted land

Impacted Land	Impact Type	
Total acquired land	7,840 ha	
Total woodland (remnant vegetation)	103 ha	
Total potential SCL Total impact on potential SCL	1,361 ha 1,361 ha	Equal proportions of sorghum, mung beans, sunflowers, maize and wheat
Total grazing land Total impacted grazing land	6,376 ha 1,000 ha	Approximately 500 heads of cattle (Approximately 1 head of cattle per 2 ha)
Impacted pigs (no.)	2,500 pigs	

In order to reduce the revised Project's impact on SCL the majority of the Willeroo mine pit's elevated landform is to be located within an approved mining lease (ML 50216) as part of the Mine. NAC has provided a mine footprint that is significantly reduced from that proposed under the original proposal. This mine plan represents the minimum disturbance area that will result in an economically viable operation. The requirements for SCL assessment is now presented in the RPI Act. NAC will ensure compliance to the requirements of the RPI Act as they relate to the revised Projects impacts on SCL.

NAC refutes the claim made by the Private Submitter that the quality of the land proposed to be mined has been under-stated or mis-represented. Refer to **Section 4** of the draft EIS and **Section 5.1.11** of the AEIS for further information relating to cropping land.

5.3.30.2 Issue 2

NAC disagrees with the Private Submitter's assertions that the revised Project will cause the closure of local businesses in Oakey.

NAC questions the link between some of the business that have closed and operation of the Mine. The general trend for people to live in Toowoomba because of its associated benefits as a

major regional centre may be an influencing factor through its flow on effects to customer demographics. People may generally opt to conduct their business in Toowoomba because of its broader range of goods and services, which would negatively influence the demand for certain goods and services within Oakey (e.g. IGA).

In general, NAC is unaware of any businesses that have closed in Oakey as a result of the Mine's operation. NAC continues to support local businesses directly and indirectly, and currently spends $110 million annually within the Darling Downs. NAC will continue its preferential use of local businesses and suppliers for the revised Project (i.e. based on an assumption of competitive pricing). NAC is directly aware that a number of Oakey businesses are doing well as a result of the Mine and that these circumstances will continue and expand for the revised Project. Examples of Oakey businesses that have benefited from the Mine, include accommodation, food services, fuel supply, and vehicle sales and servicing.

Royalties and taxes have been excluded from the economics analysis as they represent a transfer payment which is already captured in the economic impacts.

Section 5.1.11.5 of the AEIS discusses the economic losses relating to cropping land impacted by the revised Project, including post-mining.

5.3.30.3 Issue 3

Information relating to Acland can be found in **Section 5.1.7** and **Appendix I** of the AEIS. **Section 5.1.11** of the AEIS further discusses economic benefits and impacts of the revised Project.

For further information regarding this matter refer to **Section 5.1.10** of the AEIS.

5.3.31 Private Submitter 419

5.3.31.1 Issue 1

Based on Air Quality modelling, NAC do not expect dust levels to exceed regulatory limits at sensitive receptors surrounding the revised Project.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including the implementation of:

- an extensive list of mitigation measures to minimise dust emissions;
- blast fume management procedures;
- a dust forecasting system;
- a range of air quality monitoring techniques (real time and contemporary);
- adaptive air quality management;
- communication and concern management; and
- an acquisition/relocation/treatment strategy.

The implementation of adaptive air quality management measures will include the suspension or modification of operations in response to potential dust risk predictions from the dust forecasting system, real time air quality monitoring data and visual monitoring.

All overburden activities (including loading, dumping and hauling) will be suspended in the Manning Vale West Pit when PM_{10} levels are predicted to exceed the air quality goals in the EPP (Air) at any of sensitive receptors to the West and North-West of the proposed Manning Vale West Pit.

NAC has developed its air quality management strategy based on rigorous scientific investigations, a risk analysis of potential air quality impacts, experience gained from over ten years of mining operations at the Mine, regulatory requirements (e.g. air quality limits) and a understanding of leading air quality management practices developed by the mining industry. NAC will deliver the revised Project's air quality management strategy through the implementation of an Air Quality Management Plan, which is provided in **Appendix J.10** of the draft EIS.

The air quality monitoring component of NAC's air quality management strategy will include:

- Real time PM_{10} – determine compliance with EPP (Air) objective of 50 µg/m^3 and facilitate adaptive air quality management;
- Real time TSP – determine potential nuisance impacts to west of Manning Vale West Pit and determine compliance with EPP (Air) objective of 90 µg/m^3;
- Quarterly PM_{10} monitoring - continue historical monitoring and determine compliance with EPP (Air) objective of 50 µg/m^3;
- Dust deposition gauges – determine potential nuisance impacts and to continue historical monitoring;
- Meteorological Station – analysis of data to will provide supporting data to assess potential for air quality impacts following any investigations of dust concerns raised; and
- Compositional analysis – as required, analysis of deposition samples or other localised dust fallout environments (e.g. exposed residential building surfaces or rainwater tank sludge of nearby sensitive receptors) to determine dust composition and potential sources of the compositional material.

The proposed air quality monitoring locations for the revised Project are provided in **Figure 9-37** of the draft EIS.

NAC is committed to delivering a comprehensive air quality management strategy that will comply with the ambient air quality objectives in the EPP (Air) and prevent adverse air quality impacts at its neighbours' properties.

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate dust nuisance. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in **Appendix J.10** of the draft EIS.

5.3.32 Private Submitter 464

5.3.32.1 Issue 1

The surface geology map provided in **Figure 6-1** of the draft EIS is accurate to its mapped scale. It is a specialised map that displays the surface geology of the region (i.e. the surface expression of the various outcropping geological units). The base data for this map was obtained from State government geological mapping. The scale of this map complies with the approved ToR for the revised Project's draft EIS. The surface geology map should be considered as referenced within **Chapter 6** of the draft EIS. NAC disagrees with the Private Submitter's comments in relation to revised Project's surface geology map.

5.3.32.2 Issue 2

NAC has achieved a high level of accuracy from the groundwater modelling work completed for the revised Project's draft EIS and AEIS. As a key local and regional issue, NAC's groundwater modelling has been scrutinised by the lead Commonwealth and State agencies. For the AEIS, NAC's groundwater model for the revised Project underwent further sensitivity and uncertainty analysis and was reviewed by a third party expert to verify the methodology, the accuracy and the results. The findings of this work are provided in **Appendices F** and **N** of the AEIS. In addition, NAC has updated its GMIMP based on the outcomes from the additional groundwater modelling work completed for the revised Project's AEIS. This document is provided in **Appendix H** of the AEIS.

Therefore, NAC believes it has addressed the Private Submitter's concerns in relation to potential adverse impacts on the basalt aquifer at their property as a result of the revised Project.

NAC is happy to re-engage the Private Submitter on this matter and facilitate a landholder bore survey at their property. NAC is committed for the revised Project to providing certainty to its neighbours by ensuring a legally binding mechanism is available to investigate groundwater complaints and to implement 'Make Good' measures where a groundwater issue is identified.

NAC will negotiate all 'Make Good' measures with its neighbours and pay all costs associated with the agreed 'Make Good' measure(s). NAC will ensure a dispute resolution mechanism is available for neighbours if they feel aggrieved by the negotiation process for 'Make Good' measures. These components will be included in the proposed Landholder Agreements.

NAC is committed to implementing a complaints management process for groundwater issues raised in relation to the revised Project that is consistent with the Water Act. NAC has had initial discussion with DNRM in relation to this matter and will investigate all groundwater complaints related to the revised Project both during the operational phase and following mine closure. Therefore, NAC offers the Private Submitter the opportunity to participate in the development of a Landholder Agreement for the revised Project to provide further certainty around groundwater impact management (i.e. as a specific clause).

For additional information in relation to this matter, please refer to **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.32.3 Issue 3

Refer to **Section 5.3.32.2** of the AEIS.

5.3.32.4 Issue 4

NAC is committed to returning the post mined land to the highest possible grazing production to allow its re-incorporation into the APC's business (i.e. for a long term sustainable rehabilitation outcome). The APC is assisting in the Mine's rehabilitation process and will continue this practice for the revised Project. The APC has commenced a grazing trials project to guide future rehabilitation and grazing management practices. The latest results of the grazing trials project is provided in **Section 5.1.2** of the AEIS.

NAC is committed to minimising the revised Project's impacts to land and is proposing to batter down the slopes of the residual voids to create depressed landforms. This approach will allow limited grazing to be conduct within these areas. Alternatively, NAC may also consider establishment of native habitat within these areas to add to its planned ecological benefits for the Acland district, which include the protection and enhancement of Lagoon Creek's riparian zone and Bottle Tree Hill. This will be a future commercial decision by the APC and NAC following completion of the revised Project.

NAC believes it can return the post mined land to a productive and profitable grazing state. NAC is committed to a sustainable approach to its mining operations and together with the APC's support will ensure the post mined land is in suitable condition for commercial use by the APC. Therefore, there is a long term business incentive within NAC to make sure this goal is achieved at the cessation of the revised Project's mining activities.

NAC understands that there will be a reduction in agricultural productivity within the revised Project's area. However, NAC believes the economic benefits of mining significantly outweigh the reduced agricultural productivity. Importantly, agricultural production will continue within the revised Project area following mining as a result of the APC's commercial agricultural business. This difference in economic benefits is clearly provided in **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

As explained, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and agricultural production at the cessation of mining in the Acland district. The APC as a larger farming business in the Acland district will also possess the advantage of 'economies of scale' through the amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends within the agricultural sector (Hooper et. al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

In summary, NAC believes mining is a suitable land use for the Acland district, based on its responsible land management and sustainable mining practices, its commitment to return the former mined land to a productive agricultural state, and the significant economic benefits that will be gained

from mining the coal resource over the life of the revised Project. NAC also believes the economic evidence clearly supports the operation of the revised Project (i.e. the positive benefits outweigh the negative impacts).

5.3.32.5 Issue 5

NAC has always conducted its community consultation in a professional, honest and open manner, regardless of the scale of the consultation event. NAC has completed a myriad of consultation actions over the life of the current Mine, and in recent years, has significantly expanded its consultation effort. As part of its "social licence to operate" with the local community, NAC is committed to continuing this effort for the revised Project and has developed a SIMP, which is provided in a revised format in **Appendix E** of the AEIS.

The SIMP possesses a Community and Stakeholder Engagement Action Plan that delivers a framework to provide effective community engagement and communications mechanisms for stakeholders and community members. Key strategies that will support the implementation of this Community and Stakeholder Engagement Action Plan for the revised Project include:

- continued operation of the CRG;
- continued commitment to provide the staffed New Hope Community Information Centre at Oakey;
- ongoing stakeholder and landholder engagement;
- implementation of the LSMP (**Appendix J.18** of the draft EIS);
- continued communications through the project phone line and email address;
- participation in the Oakey Community Care Group, Toowoomba Surat Basin Enterprise, Oakey Chamber of Commerce and other local groups; and
- partnerships and relationships with local educational institutions such as Oakey State High School, University of Queensland and University of Southern Queensland.

Importantly, these strategies have been developed in consultation with community members and stakeholders through meetings, ongoing feedback and the CRG. NAC will also evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC is acutely aware that it must earn and maintain its "social licence to operate" with the local community and is clearly focussed on achieving this outcome. For example, NAC has made many compromises in developing the revised Project. NAC understands that these compromises were essential to address community and government concerns and to regain its "social licence to operate" with the local community. Similarly, in keeping with leading practice, NAC has elevated its community support base through significant donations to local organisations (e.g. Careflight) and through the provision of a community support fund.

In addition, NAC has provided considerable detail around its future management of the revised Project through the provision of management plans in the Appendices of the draft EIS. NAC has adopted this more open and transparent approach with the community in relation to its proposed future operation of

the revised Project to allow a better understanding of its planned management strategies, particularly in those key areas where concerns may be raised. NAC believes this open and transparent approach should continue to promote its "social licence to operate" with the local community.

NAC acknowledges that over time its property purchases have to an extent, changed the local demographics in the vicinity of the revised Project site. NAC believes the social fabric of the district will re-adjust in time with support. As a result, NAC is committed to supporting the local community through the implementation of its SIMP, which identifies and defines the roles of NAC, the government and the community in the mitigation and management of social impacts throughout construction, operation and decommissioning of the revised Project. The SIMP also aims to promote an active and on-going role for communities, local authorities and government throughout the life of the revised Project. Importantly, NAC will evaluate the performance of the SIMP over the life of the revised Project and amend it as necessary to ensure that it is functioning efficiently and effectively.

NAC also believes that the population and demographics of Acland and the surrounding district would have changed over time because the area was suffering a similar fate being experienced by much of rural Australia as a result of:

- an aging population; and
- the social migration of young people and families to cities and larger rural centres in search of employment and other lifestyle opportunities.

In addition, small rural towns like Acland continue to suffer from:

- a lack of general facilities and services; and
- their location in relation to larger rural centres which offer a greater degree and diversity of services and facilities. For example in Acland's case, Oakey and Toowoomba.

In summary, NAC believes its consultation effort for the revised Project has been adequate before, during and following the public comment period for the draft EIS. NAC's consultation effort is outlined in **Chapter 19** of the draft EIS. NAC's ongoing consultation strategy for the revised Project is provided in the SIMP (**Appendix E** of the AEIS).

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS details. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.32.6 Issue 6

NAC will fund all road diversions or other changes required as a result of the revised Project (e.g. the re-alignment of the Jondaryan-Muldu Road.). As a rule of thumb, any changes to local infrastructure as a result of the operation of the revised Project would be funded by NAC.

NAC is also a significant annual contributor to the TRC through the purchase of recycled water and the payment of rates on its extensive landholders, some of which incur special charges as a result of

the mining activities. These charges would help support the TRC's infrastructure maintenance and upgrades within the local region.

5.3.32.7 Issue 7

NAC disagrees with the Private Submitter's comments around consultation. While individual meetings were not held with all landowners surrounding the revised Project, NAC believes there were ample opportunities and/or mechanisms for the Private Submitter to engage with NAC in relation to the revised Project. These consultation opportunities and mechanisms are outlined in **Chapter 19** of the draft EIS.

Following public release of the draft EIS for the revised Project, NAC conducted public consultation events at Jondaryan, Goombungee, Acland and Oakey during February 2014. These events offered an opportunity for the Private Submitter to engage with NAC. NAC is aware that the Private Submitter attended the Acland public meeting for the draft EIS.

In relation to the Mine's consultation program, the Community Liaison Officer and CRG are key initiatives undertaken by NAC in recent years to improve its community engagement strategy. To-date, both initiatives have proved highly successful and are continuing to evolve in a positive manner over time. An additional person has been employed to better meet the demands of the Community Office and general community interactions. NAC's Community Office is normally open for a minimum of four half days a week. NAC's Community Liaison Officers are also available outside these hours for individual meetings.

NAC has conducted a number of open community consultation events (public information days) in Oakey for the Mine and revised Project over the past few years, but is unsure whether the Private Submitter has attended these informative events. In general, these open community consultation events have offered a wonderful opportunity for the public to interact with NAC and NHG staff and obtain first-hand information about key aspects of the Mine and revised Project.

For further information on NAC's proposed social impact management (including community engagement strategy) for the revised Project, refer to **Sections 5.1.9 and 5.1.10** and **Appendix E** of the AEIS. For additional information in relation to this issue, please also refer to **Section 5.3.20.1** of the AEIS.

In addition, NAC's consultation and engagement program for issues raised by Private Submitters is outlined in **Section 5.1.10** of the AEIS. NAC's consultation and engagement program will provide more detail about how the most affected community members will be engaged and how impacts and concerns will be mitigated and managed over the life of the revised Project.

5.3.33 Private Submitter 473

5.3.33.1 Issue 1

The potential impact of the revised Project on flooding on Jondaryan and Oakey was presented in **Chapter 5** of the draft EIS.

As stated in **Section 5.11.3** of the draft EIS, there is no increase in the extent of inundation or water surface levels on any properties not owned by NAC. Downstream of the new railway crossing there is a minor decrease in flood levels of approximately 0.2 m, a result of the railway embankment which attenuates the flood peak.

Section 5.11.3 of the draft EIS examined the changes to the duration of flooding and flood warning for Jondaryan. **Figure 5-19** of the draft EIS illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-19** of the draft EIS illustrates that there is predicted to be a very minor increase in the time prior to the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway crossings. It is therefore considered that the revised Project will not have significant impacts on flood warning in Jondaryan.

The township of Oakey is upstream of the Lagoon Creek and Oakey Creek confluence on a separate tributary to that of Lagoon Creek. As no impacts are predicted at Jondaryan there will be no flooding impacts at Oakey.

In summary, the revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.33.2 Issue 2

The air quality assessment (**Chapter 9** of the draft EIS) found the revised Project is expected to comply with the ambient air quality objectives in the EPP (Air) at Jondaryan provided NAC successfully implement a comprehensive air quality management strategy. The air quality management strategy includes a dust forecasting system, real time air quality monitoring and adaptive air quality management through the suspension or modification of mining activities to reduce dust emissions. NAC propose to undertake the following air quality monitoring in Acland:

- TEOM for real time measurement of PM_{10} concentrations;
- Dust deposition gauges for measurement of general dust fall out; and
- A meteorological station for the measurement of local weather conditions.

NAC propose to publicly issue an environmental monitoring report on a monthly basis. The environmental monitoring report will present a summary of air quality monitoring data. The environmental monitoring report will be made available to the public through the Proponent's website.

The potential air quality impacts of the revised Project on Jondaryan and Oakey were presented in **Chapter 9** of the draft EIS. Mining activities associated with the revised Project are located at least 9 km to the northeast of Jondaryan and 10 km northwest of Oakey. The maximum predicted PM_{10} concentrations at Oakey and Jondaryan (presented in **Figure 9-11** for 2019 operations, **Figure 9-18** of the draft EIS for 2023 operations, and **Figure 9-26** for 2029 operations) are below the air quality objectives in the EPP (Air). Based on the predicted air quality associated with operations for the revised Project, there is no requirement for additional air quality in Jondaryan and Oakey.

NAC currently undertakes air quality monitoring for the existing operations of the JRLF. The JRLF is a coal loading facility located approximately 1 km east of Jondaryan. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

Air quality monitoring will continue in Jondaryan until the JRLF is decommissioned. The on-site TEOM will remain and be used for post decommissioning monitoring purposes.

5.3.33.3 Issue 3

NAC have undertaken additional intersection turning movement counts on Wednesday, 29 May 2014 at Davidson Street and Bridge Street at-grade level crossing in Oakey. The survey data obtained for the existing and proposed level crossings will be used for an ALCAM assessment. The accredited ALCAM report from QR will outline the findings and proposed mitigation measures of the level crossing assessment for at-grade level crossing in Oakey.

NAC will undertake the appropriate discussions with QR, DTMR and TRC to ensure the appropriate mitigation measures are implemented based on the proposed design considerations outlined within the ALCAM assessment that would be undertaken by QR.

5.3.33.4 Issue 4

The waste management requirements for the revised Project were presented in **Chapter 14** of the draft EIS. The waste management requirements for waste tyres and lubricants are as follows:

- Tyres will be stored and disposed of in the spoil dumps or transported off-site by a licensed regulated waste transporter to a licensed regulated waste receiver for recycling or disposal. The disposal of waste tyre from mining operations in spoil dumps is consistent with standard practice in the mining industry in Australia. Properly constructed landfill storage of whole tyres does not represent an environmental risk (Sustainable Strategic Solutions, 2006).

- Waste lubricants will be collected and stored in a bunded tank with waste oil. Waste oil will be transported off site by a licensed regulated waste transporter, to a licensed regulated waste receiver, for recycling or treatment and disposal.

In **Section 14.7** of the draft EIS, NAC detailed their commitments to waste management including a commitment to undertake waste monitoring and auditing.

5.3.34 Private Submitter 474

5.3.34.1 Issue 1

Due to the rural landscape within and surrounding the Study area, night lighting is expected to create a glow in the night sky that will be visible from the surrounding region and nearby residences. However, as the Mine already provides some luminance in the night sky, it is unlikely that the revised Project will substantially increase the existing visual impact of night time glow.

As detailed in **Section 3.3** of the LSMP (**Appendix J.18** of the draft EIS), for issues relating to the Mine, neighbours have access to senior site personnel via a telephone number which operates 24 hours a day. This 'fast response' approach is designed to ensure access to the NAC employee on site at the time with the necessary responsibility to take immediate actions if required. NAC's Environmental Team will be available for contact during business hours by email (with the email address available through a web-site), and by telephone through the Mine's reception.

A legible record of all concerns will be kept by NAC's Environmental Team, who are responsible for the revised Project's environmental concerns management. Each concern received in relation to the revised Project will be formally documented and record of the following information is maintained for legal and compliance purposes.

1. The date and time of concern.
2. The nature of concern (e.g. dust).
3. The method by which the concern was received (e.g. telephone).
4. The name and title of the person who receives the concern.
5. The personal details of the complainant, if made available, or if no details were provided, a note to that effect.
6. The action taken in relation to the concern, including any follow-up contact, the outcome of investigations and any required on-going actions.
7. If no action was taken, then the reason why no action was taken.
8. The final status of the concern (e.g. resolved, continuing or unresolved).

NAC will continue to use its 24 hr contact number for near neighbours to allow quick rectification of directional lighting issues from mobile lighting units.

NAC will undertake the necessary measures to ensure lighting efficiency is considered during the installation phase at the revised Project's new infrastructure areas. The minimisation of 'light spillage' towards sensitive receptors will be a priority and will involve mitigation measures such as the use of light shielding, the appropriate selection of equipment (e.g. illumination intensities) and the correct directional placement of lighting structures.

NAC's EA will possess conditions to address adverse light impacts from a nuisance perspective.

5.3.34.2 Issue 2

Section 5.1.6 of the AEIS details impacts for each nearby landholder affected by road closures and diversions. The assessment discusses additional distances each landholder would have to travel to access their properties and to reach the nearest townships, including Acland.

5.3.34.3 Issue 3

As discussed in **Section 3.8.1** of the draft EIS, the existing package Sewage Treatment Plan (STP) 1 is operating at capacity to cover 460 equivalent persons and is planned to remain in operation for the Mine. Treated effluent from STP 1 drains to the existing Sediment Dam (SD) 1. NAC's current EA allows for the use of water from SD 1 for dust suppression purposes. To date, this practice has not been a common occurrence due to the minimal discharge from STP 1 and the normally low water levels of SD 1.

Sewage effluent is typically high in faecal coliforms, and is normally managed via a separate, dedicated and contained treatment system. NAC will construct a new STP, namely STP 2 for the revised Project within the infrastructure area on ML 50170. The capacity of STP 2 is expected to be up to 250 equivalent persons and will discharge to SD1. This is further detailed in **Section 3.1.4** of the Water Resource Management Plan (**Appendix J.4** of the draft EIS).

Any reuse or disposal of treated sewage effluent will be governed by the revised Project's EA to ensure management of contaminants and protection of the health and wellbeing of people and the environment on and off the revised Project site. The DEHP will be responsible for the regulation of the Project's EA.

5.3.35 Private Submitter 475

5.3.35.1 Issue 1

The EP Act provides that construction noise from building work that makes audible noise should be limited to 6:30am to 6:30pm Monday to Saturday, unless otherwise authorised under an EA.

The Planning for Noise Control Guideline (EPA 2004) provides a framework for the assessment of operational noise emitted from industrial, commercial and mining operations, and is intended for noise planning purposes. The guideline is aimed at addressing the control and prevention of noise impact and addresses the following three aspects:

- preventing background noise creep (noise levels creeping higher and higher over time);
- containing and minimising variable noise; and

- avoiding sleep disturbance.

This document, along with others, was considered when setting noise assessment criteria, developing methodology, undertaking background noise level monitoring and in the modelling of proposed noise sources to assess the potential impact on sensitive receptors.

Modelling results are tabulated in **Appendix G.7.3** of the draft EIS, which provide the predicted noise levels against the criteria from EPP (Noise) and Planning for Noise Control Guideline's sleep disturbance criteria at each sensitive receptor during operations for each of the three stages of the revised Project life.

Research from the WHO shows that as a rule, in planning for short-term or transient noise events, for good sleep over eight hours, the indoor sound pressure level measured as a maximum instantaneous value should not exceed approximately L_{Amax} 45 dB(A) more than 10-15 times per night. The corresponding external noise level, assuming partially closed windows, would be L_{Amax} 52 dB(A) measured in free field (EPA 2004).

The maximum operational noise level from the mining operation is predicted to meet the Planning for Noise Control's sleep disturbance criterion of L_{Amax} 52 dB(A) during the worst case temperature inversion condition at all noise sensitive receptors over the life of the revised Project.

Construction work will only occur during daytime hours. Due to the proposed construction hours and the separation distances (minimum 400 m) between construction activities and the sensitive receptors, noise impact from construction activities will be minimal.

Mining activities will typically be conducted either on a six day, 24 hour basis or a seven day, 24 hour basis depending on the mining schedule and the type of mining equipment used. The CHPP activities will be conducted on a seven day, 24 hour basis. Certain mining related activities such as blasting will only be undertaken during daylight hours and will not generally be carried out on Sundays or public holidays. Conducting mining operations on a 24 hour basis is standard practice in Queensland, with various measures in place to ensure a safe operation. The TLF will operate on a seven day, 24 hr basis. Train operations will also occur on a seven day, 24 hr basis.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life and has worked well for those neighbours who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to work with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This 'beyond compliance' approach to noise management was adopted by NAC in good faith to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project and has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will comply with the new statutory noise limits and prevent adverse noise and vibration impacts at its neighbours' properties.

5.3.35.2 Issue 2

Section 5.1.6 of the AEIS discusses impacts of road closures and diversions for each nearby landholder, and disruption to nearby business including potential restrictions to movement of farm machinery between properties.

5.3.35.3 Issue 3

As discussed in **Section 9.4.5** of the draft EIS, deposited dust from mining operations that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to obtaining all relevant approvals in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties, exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The percentage of coal in sediments of rainwater tanks varied from 1% to 25%

based on analysis by SEM. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.36 Private Submitter 476

5.3.36.1 Issue 1

Refer to **Section 5.3.35.1**.

5.3.36.2 Issue 2

Refer to **Section 5.3.35.2**.

5.3.36.3 Issue 3

Refer to **Section 5.3.35.3**.

5.3.37 Private Submitter 477

5.3.37.1 Issue 1

Refer to **Section 5.3.35.1**.

5.3.37.2 Issue 2

Refer to **Section 5.3.35.2**.

5.3.37.3 Issue 3

Refer to **Section 5.3.35.3**.

5.3.37.4 Issue 4

NAC acknowledges the Private Submitter's submission in relation to community cohesion. NAC has established a range of good communication protocols with its near and local neighbours that are based on efficient complaints response (e.g. after hour contact details) and the periodic provision of general site information. NAC will continue consultation over time to ensure the local community continue to have an avenue to voice their concerns and issues and forums to receive regular information updates on planned mining activities. NAC appreciates that it may be operating in the local Acland district for many years, and therefore, understands that it is important to maintain good consultation and complaints management strategies.

The preparation of the SIA provided in **Chapter 16** of the draft EIS, involved community consultation with property owners around the Mine and revised Project site. In addition, consultation was undertaken with key stakeholders to identify social issues (e.g. community values) relevant to each stakeholder. A comprehensive community and stakeholder engagement program has been an integral component of the planning and approval process for the revised Project. **Chapter 19** of the draft EIS provides an overview of the consultation program implemented by NAC, which reflects both the formal consultation activities carried out specifically for the revised Project and the existing community and stakeholder engagement activities undertaken as part of NAC's on-going community consultation program for the Mine.

NAC will continue consultation with relevant stakeholders throughout the course of the Project Approvals and beyond into construction and operation. This is evidenced by clear consultation strategy and program in the Stakeholder Engagement Plan **(Appendix K.1** of the draft EIS).

Section 5.1.10 of the AEIS details the engagement program and mitigation strategies proposed to resolve issues raised by landholders. This includes more detail about how the most affected community members will be engaged and impacts mitigated and managed during the life of the Project.

5.3.37.5 Issue 5

NAC's mining operations will continue to be subject to strict compliance limits for air quality (i.e. for nuisance and health based matters) and noise and vibration, as a component of its EA. Management and mitigation of air, noise and vibration impacts is detailed in **Section 5.1.3** of the AEIS.

As described in **Section 9.5.3** of the draft EIS, NAC proposes to implement a dust forecasting system to provide daily predictions of upcoming meteorological conditions and potential risk of air quality impacts from mining operations from the revised Project.

The dust forecasting system predicts potential risk of air quality impacts using dispersion modelling tools for up to two days in advance. The dust forecasts will be updated on a daily basis, generating a daily automated email of forecast meteorological conditions and dust risk.

Predictions from the dust forecasting system will allow operators to identify locations and times of potentially increased risk, and to facilitate appropriate planning to minimise or avoid potential impacts. A proposed hierarchy of adaptive management measures for key sources of dust from mining

operations is outlined in **Section 9.5.5** of the draft EIS. In addition, a series of adaptive management measures and are included in the Air Quality Management Plan for the revised Project (**Appendix J.10** of the draft EIS).

NAC will expand its current proactive air quality monitoring network ahead of the revised Project's mining operations to ensure that adverse impacts are identified in a timely manner to allow implementation of mitigation measures.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities.

NAC has demonstrated that it is committed to work with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This 'beyond compliance' approach to noise management was adopted by NAC in good faith to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

NAC understands that pest and weed management is an important issue for its near neighbours, and therefore, responds to these matters in a timely and thorough manner. Pests and weeds will be managed in accordance with the revised Project's PWMP provided in **Appendix J.9** of the draft EIS.

In relation to impacts on agricultural services, while NAC has changed the demographics within the local Acland area, NAC believes it has not influenced the wider community outside the footprint of the revised Project. Changes in supply and demand for agricultural products sold by local produce stores may be influenced by a range of factors. For example, the recent economic climate (e.g. global financial crisis), a change in the intensity of farming as a result of people seeking a 'rural lifestyle', a change in the intensity of farming as a result of an aging rural demographic, or a combination of these and other factors (e.g. periods of drought) may have negatively influenced supply and demand trends for agricultural products.

Community safety is described in **Section 16.12** and **Section 16.16.9** of the draft EIS. NAC is aware of localised instances of crime in and around Acland in recent years. NAC believes this local aberration caused by criminal opportunists is trending back towards normality as houses are removed from Acland and the APC take full control of all the purchased properties. The APC will eventually rationalise the housing requirements as the revised Project progresses. NAC will continue to take the necessary actions in an attempt to reduce the potential for criminal activity within the future revised Project area.

For additional information regarding this matter, please refer to **Section 5.1.7** and **Appendix I** of the AEIS.

5.3.38 Private Submitter 478

5.3.38.1 Issue 1

Refer to **Section 5.3.35.1.**

5.3.38.2 Issue 2

Refer to **Section 5.3.35.2**.

5.3.38.3 Issue 3

Refer to **Section 5.3.35.3**.

5.3.39 Private Submitter 479

5.3.39.1 Issue 1

Refer to **Section 5.3.35.1.**

5.3.39.2 Issue 2

Refer to **Section 5.3.35.2**.

5.3.39.3 Issue 3

Refer to **Section 5.3.35.3**.

5.3.40 Private Submitter 486

5.3.40.1 Issue 1

The potential air quality impacts of the revised Project on Jondaryan were presented in **Chapter 9** of the draft EIS. Mining activities associated with the revised Project are located at least 9 km to the northeast of Jondaryan. The maximum predicted PM_{10} concentrations at Oakey and Jondaryan (presented in **Figure 9-11** for 2019 operations, **Figure 9-18** of the draft EIS for 2023 operations, and **Figure 9-26** for 2029 operations) are below the air quality objectives in the EPP (Air).

NAC currently operate the JRLF. NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to the relevant approvals being in place in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

5.3.40.2 Issue 2

Deposited dust from material handling operations (including mining and coal handling facilities) that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in

levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to the relevant approvals being in place in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties, exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The percentage of coal in sediments of rainwater tanks varied from 1% to 25% based on analysis by SEM. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.40.3 Issue 3

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.41 Private Submitter 487.1

5.3.41.1 Issue 1

Chapter 6 of the draft EIS describes the groundwater resources that may be affected by the revised Project, how they might be affected, and the measures required for the mitigation of potential negative effects.

The methodology undertaken for the assessment of groundwater resources includes

- the formulation of a hydrogeological conceptual model describing the groundwater system to serve as the basis for a numerical model;
- the undertaking of numerical modelling to estimate likely effects of the revised Project on groundwater levels in a number of aquifers; and
- the assessment of potential effects and mitigation measures.

The draft EIS outlined that the Quaternary Alluvial aquifer is limited in spatial extent and within the revised Project site may only exist within the westernmost part in association with Lagoon Creek, although investigations have shown that Lagoon Creek is very likely disconnected from the regional groundwater system. The alluvial aquifer is known to form a significant groundwater resource outside of the revised Project site, especially in association with Oakey Creek (and its tributary Doctors Creek) south of the revised Project site.

Updated groundwater modelling, including a sensitivity and uncertainty analysis, has been undertaken for the revised Project since the draft EIS and is reported in **Appendix F** of the AEIS. The updated model has further refined the groundwater impact predictions presented in the draft EIS. The groundwater modelling undertaken in the draft EIS and the subsequent AEIS has included an assessment of likely impacts to the alluvial aquifers, including that associated with Oakey Creek. The Oakey Creek alluvium was specifically represented in the numerical model so that any potential impacts from the revised Project may be identified, i.e. no assumption was made as to limited impacts on this aquifer, rather the potential for impacts was specifically testing using a numerical computer model.

The updated groundwater modelling undertaken following the draft EIS, and reported in **Appendix F** of the AEIS, shows that groundwater drawdown associated with the revised Project is unlikely to have

an impact on the surrounding alluvial aquifers as these aquifers are located significant distances away from the revised Project's proposed pits, and are poorly hydraulically connected to the Walloon Coal Measures aquifer which will be the primary aquifer intersected by the revised Project. None of the DNRM registered bores identified as being installed in any of the alluvial aquifers are predicted to be impacted by the revised Project.

Although not expected to occur, should impacts on the alluvial aquifer occur during operation of the revised Project, NAC has committed to Make Good measures for affected landholders as outlined in **Section 6.4.4** of the draft EIS and the revised Project's GMIMP, which is provided in **Appendix H** of the AEIS. As outlined in the GMIMP, and consistent with the Water Act, a complaints process for affected landholders will be set up, and NAC will follow this process to investigate and confirm groundwater impacts following a complaint. Following these investigations, if necessary reach agreement with affected landholders for Make Good measures.

NAC, through the landholder bore survey undertaken as part of the groundwater impact assessment, surveyed four bores on the Private Submitter's property. NAC will undertake baseline landholder bore survey at all groundwater bores within the predicted drawdown area, in accordance with the Water Act.

The groundwater monitoring program for the revised Project was presented in **Section 6.4.1** of the draft EIS. The proposed groundwater monitoring program included four monitoring bores in the Walloon Coal Measures to the east of the revised Project.

NAC will ensure its groundwater monitoring regime is adequate to identify possible effects to neighbouring groundwater users from the revised Project's operations (i.e., in relation to drawdown levels and water quality). NAC will review its groundwater monitoring regime on a regular basis in line with the progression of mining over the life of the revised Project.

Mitigation measures will be put into place should the effects of dewatering affect existing users. Examples of mitigation include installation of new pumps, deepening of existing bores, installation of a new bore at another location on the property, or provision of an alternative supply of water. NAC will undertake a comprehensive bore characterisation program for third party groundwater users in the predicted impact area to identify the exact requirements for 'Make Good' measures for those affected users. NAC will formalise these provisions in specific landholder agreements.

5.3.41.2 Issue 2

The submission recommended the expansion of the air quality monitoring network to include a dust deposition gauge. NAC have accepted the recommendation and will consult with the landowner to determine the most appropriate monitoring location. **Figure 3-2** of the EM Plan presenting the proposed air quality monitoring locations for the revised Project Plan has been amended accordingly.

5.3.42 Private Submitter 487.2

5.3.42.1 Issue 1

NAC understands that pest and weed management is an important issue for its near neighbours, and therefore, responds to these matters in a timely and thorough manner. The operation of the APC ensures that pest and weed management is an important aspect of overall land management both ahead and behind the active mine path.

The APC was formed several years ago to manage land acquired for the Project ahead and behind the active mine path. The APC manages weeds and pests on its agricultural land surrounding the Project area and provides expertise to NAC in relation to weed and pest management. The APC seeks to achieve the best possible agricultural return from the land (i.e. both pre and post mining). Importantly, a majority of the Project land post mining as a minimum will still provide a beneficial level of agricultural production in the form of grazing.

Feral animal management is conducted by APC. NAC and APC have had discussions with TRC in relation to weed and pest (feral animals) management. To protect native fauna within the revised Project site, Project employees, contractors or visitors will not be allowed to bring domestic animals, such as cats and dogs, onto the site.

As detailed in **Section 7.9.2** of the draft EIS, NAC will continue to take reasonable steps to keep the Project site free of Class 1 and Class 2 declared animal pests, in accordance with the requirements of the *Land Protection (Pest and Stock Route Management) Act 2002*. Management of animal pests will also be consistent with any pest management plans set by TRC. NAC undertakes periodic consultation with TRC and Agforce to keep up to date with pest management issues.

Pests and weeds will be managed in accordance with the revised Project's PWMP provided in **Appendix J.9** of the draft EIS, and details:

- management methods for declared weeds within the revised Project site in accordance with local management practice and / or agency guidelines, in particular for *Lycium ferocissimum* (African Boxthorn) and *Opuntia stricta* (Prickly Pear);
- management methods for weeds of concern within the revised Project site in accordance with the local management strategies and / or agency guidelines, in particular for *Xanthium pungens* and *Xanthium spinosum* (Noogoora and Bathurst burrs, respectively);
- monitoring of treated areas to assess the success of declared weed management;
- monitoring of revised Project site to identify any new infestations of weeds;
- information on identifying declared weeds; and
- use of wash-down facilities for earthmoving equipment entering or leaving the revised Project site.

NAC's and the APC's pest and weed management activities are consistent with local and State government pest and weed management objectives.

5.3.43 Private Submitter 487.3

5.3.43.1 Issue 1

The potential for dust from the revised Project to affect pastures and livestock was discussed in the **Section 9.4.5** of the draft EIS.

Livestock are expected to have a similar response to particulate emissions as humans. Dust emissions from mining operations are not toxic or hazardous pollutants and will not affect quality of milk in dairy cattle. The air quality objectives for particulates in the EPP (Air) are considered appropriate guidelines to assess the potential health impacts on both humans and animals. The potential air quality impacts of the revised Project were presented in **Chapter 9** of the draft EIS. The predominant wind direction is from the east so the potential for air quality impacts is higher at sensitive receptors to the west of mining operations. The predicted air quality meets the air quality objectives in the EPP (Air) at sensitive receptors to the east of the revised Project.

The proposed air quality monitoring program for the revised Project include four dust deposition gauges and a real time PM_{10} concentration monitor to the east of the revised Project.

As discussed in **Section 9.4.5** of the draft EIS, the predicted dust deposition rates from the revised Project are not likely to have detectable adverse effects on pasture.

NAC has proposed a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project including a dust forecasting system, real time air quality monitoring and adaptive air quality management through the suspension or modification of mining activities to reduce dust emissions.

NAC will liaise with the Private Submitter in relation to meeting their dairy certification requirements.

5.3.43.2 Issue 2

The potential for noise generated from the revised Project to affect animals was discussed in the **Section 11.7.10** of the draft EIS.

Studies have found that an animal's initial reaction to a new noise source is fright and avoidance but animal learns quite quickly to ignore the noise source, particularly when it exists in the presence of humans. Noise and blasting at the Mine has been occurring since 2002 and 2004, respectively. Local piggeries have operated in close proximity to the Mine and have not reported any mine related impacts. NAC has also successfully conducted cattle grazing trials within the Mine's rehabilitation areas without any deleterious effects from mine noise.

5.3.44 Private Submitter 503

5.3.44.1 Issue 1

A comprehensive cultural heritage survey was undertaken for the original proposal to evaluate the status of European heritage items. Through this process, Tom Doherty Park and other local sites were

considered to possess local heritage value but were not considered to be State significant heritage items to be listed on the Queensland Heritage Register or the Register of National Estate.

NAC currently holds a Compensation Agreement with the DEHP for Tom Doherty Park. If the revised Project is approved and the relevant ML is granted, NAC will become the legal owner of the Tom Doherty Park. NAC applied to the mining registrar of the DNRM under Section 307 of the MR Act to partially surrender MLA 50232. The boundaries for the revised Project are stated in **Section 5.1.2** of the AEIS. Therefore, Tom Doherty Park is not contained within the MLA area for the revised Project and will remain.

NAC is committed to the protection, maintenance and potential enhancement of Tom Doherty Park. In addition, NAC acknowledges the Private Submitter's information in relation to the Acland War Memorial described through the submission. Significant aspects of Tom Doherty Park such as the Acland War Memorial are planned to be managed through the implementation of the AMP. The AMP is located in **Appendix A** of the AEIS. NAC will conduct regular consultation with the community and the Private Submitter in relation to this matter.

5.3.44.2 Issue 2

In order to meet the key objectives for the revised Project outlined in **Section 3.2** of the draft EIS, NAC have identified the inclusion and progressive development of two new resource areas within MLA 50232. These resource areas are identified as the Manning Vale and Willeroo resource areas. As discussed in **Section 3.6.7** of the draft EIS, mining activities will be conducted at the Manning Vale West and Willeroo mine pits either on a six day, 24 hr basis or a seven day, 24 hr basis depending on the mining schedule and the type of mining equipment utilised. It is envisaged that the Manning Vale East pit blocks closest to Acland will operate on a daytime only basis, unless adaptive monitoring of key environmental constraints allow otherwise. The Manning Vale East Pit will be closely monitored and managed to satisfy noise, vibration and air quality constraints at Acland and surrounds and may include mitigation steps such as the reduction or cessation of mining operations during heightened sensitive periods. The CHPP activities will continue to be conducted on a seven day, 24 hr basis. The TLF will operate on a seven day, 24 hr basis.

To comply with the revised Project's proposed noise limits; NAC has established a buffer zone around Acland and in doing so has developed a comprehensive Noise and Vibration Management Plan. The Noise and Vibration Management Plan located in **Appendix J.11** of the draft EIS includes real time noise monitoring and adaptive management measures to ensure compliance with the proposed noise limits.

Nevertheless, NAC acknowledges that noise can be a difficult matter to manage given its sometimes transient nature based on local climatic conditions (i.e. in terms of its time and length of exposure), its nuisance value in relation to sleep disturbance, that different noise receptors possess different sensitivities to different noise sources, and the popular misconception that no noise from a particular noise source should be heard at all.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-

time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. The objective the TARP is to maintain compliance with the current noise objectives through a real-time monitoring program and the implementation of an adaptive management framework for noise emissions from the mining operations.

The monitoring component of the TARP consists of:

- Real-time noise monitoring undertaken at Acland;
- Noise levels recorded and analysed every 10 minutes; and
- Analysis of low frequency noise levels (<600 Hz) and noise recordings to determine if there is a risk of mining operations resulting in an exceedance of the EA conditions.

In the event that monitoring indicates noise levels from mining operations may exceed of the EA conditions, NAC undertake the following actions:

- Communicate with operators to understand current operations and key sources of noise;
- Adjust operations (eg shut down plan, move equipment, suspend operations) to reduce noise levels;
- Determine if actions have reduced noise levels sufficiently to achieve compliance; and
- Take further actions as required to achieve compliance.

As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life. This system is also used for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to work with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This 'beyond compliance' approach to noise management was adopted by NAC in good faith to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits. Importantly, NAC is committed to delivering a comprehensive noise

and vibration management strategy that will comply with the new statutory noise limits and prevent adverse noise and vibration impacts at its neighbours' properties.

NAC's proposed consultation with the Private Submitter in relation to this issue is outlined in **Section 5.1.10** of the AEIS.

5.3.44.3 Issue 3

Blast monitoring for the Mine has demonstrated that at 2 kms, ground vibration is negligible (< 1mm/sec) and air blast overpressure is within the compliance limit (< 115 dBA linear peak), except for a small number of blasts where technical difficulties, such as stemming failures, were experienced. Importantly, NAC will be required to ensure the Project's blasting regime does not exceed the strict statutory levels for ground vibration and air blast overpressure at nearby sensitive receptors (i.e. as an EA requirement).

As discussed in **Section 11.7.7** of the draft EIS, the distance between nearest sensitive receptors and overburden blasting for the revised Project is expected to be greater than 1,000 m. The airblast overpressure and vibration impacts from blasting can be managed to achieve acceptable levels at the sensitive receptors surrounding the revised Project.

NAC will expand its proactive blast monitoring regime for the revised Project, which is normally conducted at the closest sensitive receptors downwind of the blast site. This methodology is based on operational experience and ensures air blast overpressure is correctly recorded as the most sensitive blasting issue. To date, ground vibration has remained a relatively minor issue for blasting at the Mine.

NAC will ensure the necessary management actions are taken in an expedient manner to amicably rectify all matters of legitimate non-compliance in relation to the revised Project's blasting regime. NAC will be required to report all matters of non-compliance to the regulatory authorities in a timely manner. Importantly, NAC will be subject to serious compliance action by the regulatory authorities if during the operation of the revised Project it deliberately or continually fails to meet the strict statutory limits of its EA at nearby sensitive receptors.

Certain mining related activities such as blasting will only be undertaken during daylight hours and not on public holidays and Sundays.

5.3.44.4 Issue 4

As depicted and discussed in **Section 3.1** of the AEIS, NAC has provided revised rail and road infrastructure corridors for the revised Project. These minor amendments are a result of FEED studies for certain infrastructure components for the revised Project. The internal haul road from the MHF to the TLF will remain in place for the duration of the revised Project. Other internal haul roads used for the transportation and raw coal from the mine pit to the RoM Pad and light vehicle access will be periodically constructed in front of the mine path to allow for access and transportation of raw coal. Should the revised Project be approved, NAC will identify the most suitable locations for internal haul roads through the detailed mine planning process.

As discussed in **Section 5.3.44.2** of the AEIS, NAC will be adopt an adaptive management approach to managing noise impacts. The dust management measures to be employed for the revised Project will be in advance of standard mitigation measures used at many mining operations in Queensland. In addition, the 60 km/hr speed limit on the main haul roads will be implemented to help in reducing dust generation, without affecting coal transportation productivity. Watering haul roads is effective in controlling dust from haul roads. Watering to control of dust from haul roads is important to control both dust emissions for both environmental and safety reasons. Currently, the Mine site induction requires all site personnel and contractors to be aware of their responsibilities in relation to environmental matters such as excessive dust generation. This practice will be carried through for the revised Project.

As demonstrated in **Section 9.3.5** of the draft EIS, the PM_{10} monitoring results from the Mine are below the PM_{10} quality goal of 50 µg/m^3. To date, NAC's monitoring results indicate the current dust management measures are working effectively for the mining operations.

NAC will be required to comply with strict statutory limits for air quality and noise. These statutory limits are enforced by the DEHP under the EP Act, and therefore, carry significant penalties for deliberate or persistent breaches. These statutory limits are also designed to protect the environment, reduce nuisance factors, prevent health based issues and allow near neighbours to maintain their lifestyle.

5.3.44.5 Issue 5

Should the revised Project be approved, there will be a number of road closures that may impact travel distances for the community and services depending on location of travel. Based on the project description described in **Chapter 3** of the draft EIS, the access roads to the north, west and east of Acland will be required to be closed as these locations will be part of active mining operations. **Chapter 13** of the draft EIS describes these road closures provides a series of management strategies to reduce the impact on travellers. Furthermore, **Section 5.1.6** of the AEIS provides an assessment of the impact to near landholders affected by road closures and diversions. This assessment also covers the additional distances that landholders and service vehicles would to travel to places such as Acland, Jondaryan, Oakey and the Warrego Highway.

5.3.44.6 Issue 6

Surveys conducted since 2007 have not found any evidence of *Rhaponticum australe* (Austral Cornflower) within the Manning Vale West Pit mine boundary or other disturbance areas within the MLA. However, the Austral Cornflower has been found along the Jondaryan – Muldu Road reserve to the south west of MLA 50232. Reference to the Austral cornflower is made in **Section 7-5** and **Table 7-13** of the draft EIS. NAC commits to protect all native vegetation within the revised Project site that is not required to be cleared for operational purposes. NAC is committed to the conservation of Lagoon Creek and Bottle Tree Hill through the proposed implementation of the CZMP located in **Appendix J.6** of the draft EIS. This includes an extension to the current conservation zone along Lagoon Creek (Stage 2 area) to cover the entire Lagoon Creek area.

A comprehensive groundwater impact assessment has been undertaken for the revised Project including impacts on the Basalts. NAC wishes to direct the Private Submitter to the following references: **Chapter 6**, **Appendix J.5** of the draft EIS and **Section 5.1.5**, **Section 5.2.9**, and **Appendix F** of the AEIS.

As discussed in **Section 1.3.2** of the AEIS, the Federal Environment Minister declared that the Project was a controlled action on 24 May 2007. The Federal Environment Minister accepted the project variation (revised Project) on 9 November 2012 as an amendment of the controlled action. The matters protected under the controlled action decision are Listed Threatened Species and Communities. The revised Project is being assessed under the Bilateral Agreement between the State and the Commonwealth. Under the bilateral agreement, the Australian Government has accredited the SDPWO Act EIS process to meet the environmental assessment requirements under the EPBC Act.

At the conclusion of the SDPWO Act EIS process, the Federal Environment Minister will receive a copy of the CG's Evaluation Report and will take the CG's Evaluation Report into account when making his decision under the EPBC Act.

The Acland-Sabine Road will be upgraded as part of the revised Project. In general, those areas which are currently not sealed will be sealed appropriately in line with TMR standards for road re-surfacing. NAC will consult with all nearby landholders potentially affected by the Acland-Sabine Road at the appropriate time. NAC will ensure that all works are completed in accordance with the relevant agencies safety protocols. In periods of flooding, NAC will ensure access to and from Acland is available to the Private Submitter from the north of the revised Project site. The Private Submitter will not require a full mine site induction as the intention would be to provide the Private Submitter with an escort to ensure the utmost safety is upheld.

5.3.44.7 Issue 7

As discussed in **Section 3.8.2** of the draft EIS, the revised Project will require an upgrade of the existing power supply network that currently supplies the Mine and the surrounding district. The most economically viable option at this stage is to relocate and rebuild the existing 33 KV power line from Oakey. As discussed in **Figure 3-2** of the AEIS, the power supply route is set to follow the revised mine access road to north of the mine. NAC has commenced discussions with Ergon Energy with a view to developing a design proposal for the upgrade of the revised Project's power supply network and continued supply to Acland. NAC will continue to work closely with Ergon Energy to confirm the most suitable option to supply power to the revised Project and Acland and to finalise the overall design proposal. As part of these works, NAC will ensure an uninterrupted power supply through the 11 KV line is maintained to Acland.

5.3.44.8 Issue 8

As discussed in **Section 3.8.3** of the draft EIS, the revised Project will require relocation of a Telstra telephone exchange located along the Acland-Silverleigh Road. NAC is in consultation with Telstra to facilitate the relocation process and recent discussions indicate that Telstra will upgrade infrastructure along the Acland-Sabine Road which will improve local communications to Acland and surrounds. The coverage of this exchange and any projected outages as a result of the relocation strategy will be closely monitored by NAC to minimise the revised Project's impacts to Telstra's telecommunication

service within the region. NAC will continue to consult with Telstra in relation to these matters to facilitate a suitable strategy to prevent and minimise any disruptions.

5.3.44.9 Issue 9

The revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2 % of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek.

The flooding assessment undertaken in the EIS covers Lagoon Creek to Jondaryan. The highest point between Lagoon Creek and Doctors Creek near Jondaryan is 8 m higher than Doctors Creek. Therefore, Lagoon Creek and Doctors Creek are considered to be independent in their flooding regimes and the assessment of flooding in a flood model for Doctors Creek is not considered to be required for the draft EIS.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.44.10 Issue 10

As discussed in **Section 11.7.9** of the draft EIS Noise modelling was undertaken to predict rail noise levels for the revised Project. The location of the proposed new rail spur and the noise sensitive receptors are shown in **Figure 11-1** of the draft EIS. The nearest residence, noise sensitive receptor 31, is located approximately 400 m from the proposed rail line. Rail noise levels at noise sensitive receptors within 500 m from the rail spur have been predicted and the results are tabulated in **Table 11-23** of the draft EIS. In summary, Rail noise levels from the rail spur are predicted to be well below the Queensland Rail Code of Practice – Railway Noise Management's LAmax 87 dB(A) and LAeq (24hr) 65 dB(A) noise criteria. In light of the above assessment, NAC does not intend to construct any physical barriers to mitigate noise impacts from the operation of the rail spur and balloon loop and the TLF.

During September 2012, in response to concerns around dust nuisance, the DSITIA completed air quality monitoring within the Brisbane suburb of Tennyson along the Metropolitan rail line to the Port of Brisbane (http://www.ehp.qld.gov.au/air/pdf/tennyson-dust-report.pdf). Further more comprehensive monitoring was undertaken during March and April 2013 and then again during May 2013 at six locations along the rail line of the South West System (SWS) (Oakey, Willowburn (Toowoomba),

Dinmore, Tennyson, Fairfield and Coorparoo) and one background location on a section of the Metropolitan rail system not used by coal trains (Chelmer). The two-stage monitoring during 2013 was to assess air quality without and then with veneering of coal in rail wagons from the JRLF (DSITIA 2013).

In all cases, ambient PM_{10} and PM_{10} concentrations did not exceed the EPP (Air) 24-hour average air quality objectives of 50 µg/m^3 and 25 µg/m^3 respectively on any days during each monitoring period. The PM_{10} and PM_{10} concentrations measured at the monitoring sites located on the SWS differed little from those measured at DSITIA's ambient monitoring network sites in Brisbane. Furthermore, coal dust represented no more than 20% of dust deposited. The effect of veneering was not clear, masked by wet weather. Thorough coal washing appears to have limited coal dust emissions. The most recent report concluded a low risk of health impacts from coal dust, either within or outside the rail corridor, although there may be a potential for short term nuisance impacts from dust deposition (DSITIA 2013) These results are consistent with findings from a 2008 Queensland Rail study in Central Queensland (Connell Hatch, 2008). The final reports for this air quality monitoring program are provided at https://www.ehp.qld.gov.au/management/coal-dust/monitoring.html.

Coal Dust Management Plans (CDMPs) have been developed for both rail systems to address perceived and nuisance impacts (QR Network 2010, SWS User Group 2013). The SWS User Group CDMP proposed improved management practices including veneering at all coal loadout facilities by December 2013. NAC as member of the SWS User Group has insured that it has completed all the applicable actions from the CDMP.

To monitor the performance of the SWS User Group CDMP, continuous real-time air quality monitoring has been set-up by the Queensland government along the South West Rail System. The results from this target monitoring program has been successful in independently demonstrating that no significant coal dust issues currently exist in relation to coal transport along the South West Rail System. This data may be viewed at https://www.ehp.qld.gov.au/air/data/search.php.

NAC proposes to construct a new TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering and profiling system. The TLF's design expects to reduce potential coal dust emissions further, for example, through the use of a hopper feed to directly create the correct profile and prevent overloading. These actions were key long term recommendations from a recent report on the review of dust from coal trains in Queensland, presented to the Senate Standing Committee on Community Affairs Inquiry "The impacts on health of air quality in Australia", during 2013 (QRC 2013).

The revised Project will result in up to an additional 27 weekly rail movements along the SWS to QBH. Additional rail movements from the revised Project are unlikely to increase fugitive coal dust emissions along the rail corridor due to the implementation of the CDMP and the advanced TLF. The revised Project is not expected to result in exceedances of the ambient air quality objectives in the EPP (Air). Importantly, ongoing rail coal dust monitoring of the SWS is planned by the DSITIA (DSITIA 2013). Further discussions on this matter are provided in **Chapter 9**, **Section 9.4.5** of the draft EIS.

In terms of physical properties, NAC's coal products possess one of the highest hardness ratings, and as a result, produce significantly reduced levels of dustiness, particularly when compared to the coals

mined in the Bowen Basin of central Queensland. For example, tests conducted during 2011 by NAC of the product coal stockpiles at the JRLF indicates the average silt content is 0.4%, which represents a significantly lower value compared to other coal types in Queensland (e.g. 5-10%). This physical property is a trait of Surat and West Moreton Basin derived coals. In addition, NAC's coal products are transported in a washed state, and therefore, possesses a moisture level of approximately 10%. The combination of these physical attributes helps minimise the potential for dust generation from NAC's coal products.

NAC will be subject to strict air quality and noise and vibration conditions through its EA. In addition, NAC's operations will be required to ensure they do not breach strict statutory limits for a range of environmental factors including air quality, noise and vibration. These statutory limits are enforced by the DEHP under the EP Act, and therefore, carry significant penalties for deliberate or persistent breaches. These statutory limits are also designed to protect the environment, reduce nuisance factors, prevent health based issues and allow near neighbours to maintain their lifestyle.

The rail spur and balloon loop will designed to meet the engineering standards set down by QR. A key component of these standards is to ensure the design meets strict safety requirements. As part of the revised Project's implementation and operation, NAC will continue to consult with QR on a regular basis to assist the efficient and safe operation of the rail spur and balloon loop.

The Private Submitter is concerned about the proximity of the new TLF to Acland and suggests that the new facility will be almost as close to Acland as Jondaryan is the to the JRLF, some 1 km. In fact the location of the new TLF to Acland will be approximately 3.3 km.

5.3.44.11 Issue 11

NAC believes that the cultural heritage assessment undertaken for the revised Project is in accordance with the approved ToR. In addition, the Private Submitter will note that under the original proposal, the AHPAC was established in 2007 under the provisions of Section 452 of the LG Act as a Committee of Council by the former RSC. The AHPAC was identified as a consultative forum to discuss the preservation of items of significant heritage value to the local community and to support the initiative of establishing a heritage precinct to ensure the preservation of Acland's heritage. The AHPAC was suspended in early 2008 during the amalgamation of the RSC into the TRC, as part of the wider Council amalgamations undertaken across Queensland at the time. In September 2008, members of the community who established the AHPAC and representatives from the TRC and NAC came together to re-establish the AHPAC as a consultative forum to facilitate further deliberations regarding matters of potential European cultural heritage and to allow contributions to establishing a possible heritage precinct for the long term protection and display of locally significant heritage items. The main administrative functions of the AHPAC were to provide a recommendation to the TRC on the location of an appropriate site which could be developed into an 'Acland Heritage Precinct' and to create a list of community assets considered suitable for relocation to the selected precinct site.

Under the revised Project, the majority of the items identified through the process will remain intact and will not be removed by NAC. However, as discussed in **Table 3-28** of the draft EIS, some items will require management attention. The AMP provides details of NAC's commitment to the management of these items. The AMP is located in **Appendix I** of the AEIS.

As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC.

5.3.44.12 Issue 12

As discussed in **Section 5.3.45.11** of the AEIS, NAC is respectful of the items of local significance to Acland. Through the implementation of the AMP, NAC intends to preserve items of local significance as much a practical. This was also the intention under the original proposal with the formation of the AHPAC. All building material waste as a result of the demolition has been deposed of appropriately. Any waste containing asbestos has been and will continue to be deposed of following the appropriate standards and guidelines. For additional information regarding these matters please refer to **Appendix I** of the AEIS.

5.3.44.13 Issue 13

NAC acknowledges the Private Submitters reference to a fallen branch of a Pepperina tree as a result of house removal activities in Acland. NAC has made a commitment to enhance Acland through the implementation of the AMP, therefore improving the amenity for Acland residents. In addition, activities involving further removal of items within Acland will focus on avoiding any vegetation that may be potentially impacted upon by implementing pre-planning activities involving route selection and timing. NAC will ensure that all removals are undertaken by a suitable experienced organisation with the appropriate skills. For additional information regarding these matters please refer to **Appendix I** of the AEIS.

5.3.44.14 Issue 14

The tank stand located within the Acland No.2 Colliery site is not planned to be demolished. The ACMP located in **Appendix J.12** of the draft EIS outlines an assessment for, amongst other things, the tank stand in terms of its location on the site, significance, description, condition and possible management. The ACMP considers that the tank is in a fair to poor condition and has low significance. NAC have engaged suitable professionals to advise on the most appropriate strategies to manage the Acland No. 2 Colliery site. The purpose of the ACMP is to provide guidance on the path forward to preserve as reasonable and practical, the Acland No. 2 Colliery site as per NAC obligations under the *Queensland Heritage Act 1992*. In relation to the Private Submitters suggestion regarding a possible railway heritage trail, NAC recommends that the Private Submitter liaise with the relevant administering authority regarding this matter.

5.3.44.15 Issue 15

As discussed in **Section 5.3.44.13** of the AEIS, further removal of any vegetation will be conducted appropriate using experienced operators taking into consideration of pre-planning activities involving route selection and timing. In addition, through the implementation of the AMP, NAC intends to enhance the amenity within Acland. NAC wishes to confirm that trees are not a mitigation measure for noise, therefore have not been considered in this regard for reducing noise impacts on sensitive

receptors. NAC cannot confirm the Private Submitters conversation with the 'Manager of the DEHP' in 2008. For information regarding this matter please refer to **Appendix I** of the AEIS.

5.3.44.16 Issue 16

NAC acknowledges the Private Submitters concerns in relation to items of local significance at Acland. The AMP located in **Appendix A** of the AEIS describes NAC intentions to manage items within Acland. The ACMP for the Acland No.2 Colliery was presented in **Appendix J.12** of the draft EIS. For information regarding this matter please refer to **Appendix I** of the AEIS.

5.3.44.17 Issue 17

As discussed in **Section 5.3.44.1** of the AEIS, NAC currently holds a Compensation Agreement with the DEHP for Tom Doherty Park. If the revised Project is approved and the relevant ML is granted, NAC will become the legal owner of the Tom Doherty Park. NAC is committed to the protection, maintenance and potential enhancement of Tom Doherty Park. Significant aspects of Tom Doherty Park such as the Acland War Memorial are planned to be managed through the implementation of the AMP. The AMP is located in **Appendix I** of the AEIS. As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC. For additional information regarding this matter please refer to **Appendix I**.

5.3.44.18 Issue 18

NAC recognises the local significance and potential value of the old school building. Therefore as presented in **Appendix I** of the AEIS, the old school building will remain intact and be potentially used by NAC.

5.3.44.19 Issue 19

NAC is currently implementing the AMP. It is NAC's intention to provide an open parkland setting which will include visual screening using native vegetation. The open parkland will also provide for additional fauna habitat and will enhance biodiversity within the local area. Further information on this matter is described in **Appendix I** of the AEIS.

5.3.44.20 Issue 20

NAC acknowledges the Private Submitter's reference to the revitalisation of the Acland Hall. NAC also wishes to provide a historical summary of the Acland Hall as provided in 'A Gathered History of Acland' by Kath Greenhalgh.

- The Acland Hall was registered on 17 December 1923 with Trustees, Dugald Connell, Thomas Chicken and Fred Jenckel. All Trustees were farmers within the Acland district.

- On 6 December 1952 a tornado tore through Acland destroying the original Acland Hall. A working bee was assembled to dismantle the remains of the Hall.
- The new Acland Hall was opened by the Hon J.E. Duggan MLA on 11 June 1955 when the Honour Board was presented by the Goombungee RSL to the people of Acland.
- On 19 May 1959 the Acland Hall Committee wrote to the Queensland Coal Board requesting assistance and was granted 1,000 pounds.
- On 15 March 1960 the following declaration was made:
    - *We the undersigned being financial members of the Acland Hall are agreeable that the Trustees give joint ownership of the Acland Hall to the Queensland Coal Board in consideration for their paying the debt owing to the National Bank.*
- On 10 March 1982 the Acland Hall was nearing closure due to the lack of support at regular meetings that were held there.
- On 27 November 2006, the New Hope Groups agribusiness, APC purchased the Acland Hall.

The Private Submitter will note that the Acland Hall is now under the ownership of the APC. Since APC took ownership on 27 November 2006, the Acland Hall had been used for numerous purposes including a place for internal NAC management meetings, visitors centre for the Mine and marshalling point for mine site tours. NAC acknowledges the significance of the Acland Hall to the local community. In order to protect the items of value within the Acland Hall, NAC has implemented a number of security measures since its acquisition.

The majority of items of value have been removed from the Acland Hall by NAC and stored in a secure location with the administration building at the Mine. Prior to the removal, NAC prepared an inventory and took photographs to confirm the exact location of the items of value within the Acland Hall. This measure provides a thorough reference point for each item of value upon its potentially return in the future. The Honour Board mentioned above remains with the Acland Hall which is secured appropriately to prevent vandalism and theft. For additional information regarding this matter please refer to **Appendix I**.

5.3.44.21 Issue 21

As a result of the acquisition process conducted over recent years NAC have acquired a number of properties. The extent of the ownership is depicted in **Figure 3-3** of the draft EIS. NACs intention for Acland is outlined in the AMP located in **Appendix I** of the AEIS and generally described above in **Section 5.3.44.19** of the AEIS.

5.3.44.22 Issue 22

NAC acknowledges that in the period leading up to the construction of the Oakey to Cooyar railway in 1912/13 the Summer Hill Hotel was a focus for coaches, for local residents and was used as a post office. It is difficult to deduce the exact location, however anecdotally it was about 1 km north of

Lagoon Creek School. Limited information exists about the Summer Hill Hotel although the Beutel family relocated the 'lemonade brewing room' into Acland in 1975. It was re-erected on about Lot 47 or 48 on Church Street. While some modifications were apparently made at that time it is understood to have followed the form of the original with only damaged timbers replaced according to Mr Glen Beutel (Converge 2009). NAC is aware that the 'lemonade brewing room' is located on private Property. Therefore the 'lemonade brewing room' remains will be untouched by the revised Projects activities. However, as stated in **Section 3.12** of the draft EIS, the remains of the Summer Hill Hotel will be demolished and disposed of as per regulatory requirements. The former site will be appropriately maintained, including grounds management, mowing, and weed management. For additional information regarding this matter please refer to **Appendix I**.

5.3.44.23 Issue 23

NAC acknowledges the concerns raised by the Private Submitter, however it is the intention to demolish the butchers shop and dispose of the materials as per regulatory requirements. The site would then be appropriately maintained including grounds management. NAC is aware that a postal service commenced in Jondaryan in 1866 in anticipation of a rail line passing through the district. Within about 20 years this mail service passed through Lagoon Creek and Millglen en route to Cooyar and Nanango. Lagoon Creek and Millglen were located close to the place where Acland now exists (Converge 2009). For additional information regarding this matter please refer to **Appendix I**.

5.3.44.24 Issue 24

NAC acknowledges the local historical significance of telephone exchange and shop. For additional information regarding this matter please refer to **Appendix I**.

5.3.44.25 Issue 25

As discussed in **Section 5.3.44.11**, the AHPAC was formed as a consultative forum to discuss the preservation of items of significant heritage value to the local community and to support the initiative of establishing a heritage precinct to ensure the preservation of Acland's heritage. One of the main administrative functions of the AHPAC was to provide a list of items of local significance. Under the revised Project, the majority of the items identified through the process will remain intact and will not be removed by NAC. However, as discussed in **Table 3-28** of the draft EIS, some items will require management attention. The AMP provides details of NAC's commitment to the management of these items. The AMP is located in **Appendix I** of the AEIS.

As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC. NAC is committed to compliance with all heritage statutory requirements.

For information regarding this matter, please refer to **Appendix I** of the AEIS.

5.3.44.26 Issue 26

NAC acknowledges the correspondence provided by the Private Submitter regarding the John Oxley Library dated 15 September 1978, National Archives of Australia (date unknown), Post Master General Petition dated 10 January 1913 and associated newspaper clippings and photographs relating to the history of Acland an surrounds. NAC is committed to the preservation of Acland through the implementation of the AMP located in **Appendix I**. NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC.

5.3.44.27 Issue 27

NAC's intentions for the Caretakers Residence, St Judes Church and Town Signage are outlined in the AMP. NAC wishes to draw the Private Submitters attention to **Appendix I** of the AEIS for information regarding these items.

5.3.44.28 Issue 28

NAC has no intention to clear trees unnecessarily in Acland. Over the last 6 years NAC has removed a number of trees in order to safely remove houses from their properties. This has involved the relocation of some trees from Acland to other locations under commercial arrangements. NACs plans to enhance the amenity of Acland are stated in the AMP. In general, it is NAC's intention to provide an open parkland setting which will include visual screening using native vegetation. The open parkland will also provide for additional fauna habitat and will enhance biodiversity within the local area. For additional information regarding this matter please refer to **Appendix I** of the AEIS.

5.3.44.29 Issue 29

As discussed in **Section 5.3.46.6** of the AEIS, NAC is not aware of any existing of planned heritage trails within the immediate vicinity of the Mine or the revised Project site. The Private Submitter should consult with DEHP in relation to the matter. Nevertheless, as discussed in **Section 5.3.44.26** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC. For additional information regarding this matter please refer to **Appendix I** of the AEIS.

NAC is currently implementing the AMP. NAC has no current intentions to convert the school building into an environmental display and/or local botanic gardens. However it is NAC's intention to provide an open parkland setting which will include visual screening using native vegetation. The open parkland will also provide for additional fauna habitat and will enhance biodiversity within the local area. Further information on this matter is described in **Appendix I** of the AEIS.

5.3.44.30 Issue 30

NAC wishes to clarify the statement made in **Section 4.2.3**, page 4-15 of the draft EIS, 'Although it is not expected that Acland will serve as a viable small centre during the life of the Mine, the land would

be conserved for future development'. The land that forms Acland will remain undeveloped for the life of the mine ensuring that the land is 'shovel ready' upon decommissioning and rehabilitation of the mine for township purposes (i.e. no operational work such as cut and fill or plumbing and drainage etc. above what would be required today will be required following the mine to prepare the land development). This is supported by the Toowoomba Regional Planning Scheme, which will maintain Acland under the township zone providing for future development of land in Acland for small to medium size service centres (e.g. retail, commercial, industrial, residential). For additional information regarding NAC management of Acland please refer to **Appendix I** of the AEIS.

5.3.44.31 Issue 31

Figure 4.9 in the draft EIS has been provided for illustrative purposes only. For additional information regarding this matter please refer to **Appendix A** and **Section 5.3.44.28** of the AEIS.

5.3.44.32 Issue 32

Reference to the Austral cornflower (*Rhaponticum australe*) is made in **Table 7-13** and **Section 7.7.2** of the draft EIS as appropriate. The Austral Cornflower is listed as vulnerable under the Queensland NC Act and the EPBC Act. As discussed in **Section 7.7.2** of the draft EIS, this species is known to occur in the vicinity of the Study area and has been located adjacent to the proposed rail spur alignment. However, the known location of the species is outside the disturbance footprint of the revised Project and therefore will not be disturbed. Despite no occurrences to-date within the revised Projects footprint, there is a marginal possibility that this species may occur in areas of eucalypt woodland that are to be cleared for the revised Project. Therefore, the impact of the revised Project on this is species is expected to be low. The flora surveys carried out for the revised Project were conducted using accepted methodologies by the regulatory agencies such as the bio condition survey methodology utilised for the revised Project.

As discussed in **Section 2.3.2** of the draft EIS, the revised Project's mine footprint (incorporating the Manning Vale West, Manning Vale East and Willeroo mine pits) is defined by the nature of the deposit. The revised Project is the result of substantial geological investigations and mine planning by NAC to determine the revised Project's economic viability. The exploitation of other resources in the area is less attractive than the revised Project due to the need for additional infrastructure, generally lower resource quality and higher development and operational costs. Therefore, in order to provide a reasonable economic return on investment to NAC, the northern end of the Manning vale West Pit would need to be incorporated in the mine plan for the revised Project.

5.3.44.33 Issue 33

NAC has no intention to closing any roads unnecessarily in Acland and its surrounds. The roads that have been identified for closure are as a result of the traffic assessment conducted for the draft EIS and preliminary engineering studies. It is NAC's intention to upgrade the Acland-Sabine road as discussed in **Section 13.6.3** of the draft EIS to ensure appropriate access and safety for the residents of Acland and all transport using this road to access Acland. Acland-Sabine Road runs north-west connecting the Sabine area with Acland. It is an unsealed two-way, undivided two-lane rural road in rolling terrain. Acland-Sabine Road is currently owned and managed by TRC.

Furthermore, ecological studies that were undertaken for the revised Project identified the existence of Belson's Panic (*Homopholis belsonii*) along the Acland-Sabine road. This is depicted in **Figure 7-6** of the draft EIS. NAC have revised the TSTP to manage impacts to Belson's Panic and other flora species. In addition, NAC has committed to the preparation of a comprehensive offset management plan which will include Belson's Panic. The revised TSTP is located in **Appendix L** of the AEIS. As a result of this and experience gained from the relocation of Belson's Panic for the Wetalla Pipeline Project, NAC is expecting a marginal impact to this species.

NAC has no intention to clear trees along the Acland-Sabine road unnecessarily. With the implementation of the CZMP, koala habitat and movement corridors are expected to be enhanced along Lagoon Creek and its surrounds.

For additional information regarding this matter, please refer to **Appendix B** of the AEIS.

5.3.44.34 Issue 34

NAC refutes the Private Submitter's claim that a 'colony of koalas has been wiped out on the haul road'. No objective evidence is provided to support the Private Submitter's claim. NAC has prepared a KSMP for the revised Project which focusses on the protection of koalas and their habitat. The KSMP is located in **Appendix B** of the AEIS. In addition, NAC has prepared a CZMP which is provided in **Appendix J.6** of the draft EIS. This CZMP has been developed to ensure the protection of significant landscape features, and the enhancement of associated environmental values, during the implementation of the revised Project. In particular, the CZMP focusses on two key landscape features, namely Lagoon Creek and nearby Bottle Tree Hill.

Under the CZMP, NAC will develop and implement strategies and activities that fall within the revised Project and existing Mine areas, protect and enhance ecologically significant areas of remnant vegetation, and promote restoration of the Lagoon Creek riparian zone. NAC will concentrate conservation and rehabilitation efforts on selected sections of Lagoon Creek that are contained within the boundaries of the revised Project. NAC will also undertake additional conservation and rehabilitation measures around Bottle Tree Hill. More specifically, the CZMP aims to meet these objectives by providing guidance on the protection, rehabilitation and management of significant vegetation and habitat associated with the landscape features, including existing stands of REs 11.8.5 and 11.8.3 located on Bottle Tree Hill and remnant patches of REs 11.3.1, 11.3.2, 11.3.17, 11.3.21, 11.9.5, 11.9.10 and 11.9.13 located within the riparian zone of Lagoon Creek which are all important for the protection of the koala.

For additional information regarding this matter, please refer to **Appendix B** of the AEIS.

5.3.44.35 Issue 35

For information regarding this matter please refer to **Section 5.3.44.28** and **Appendix I** of the AEIS.

5.3.44.36 Issue 36

In addition to that provided in **Section 5.3.44.2** of the AEIS, NAC wishes to confirm that through the preparation of the draft EIS, extensive conservative noise modelling was undertaken in order to

understand the potential for noise impacts over the life of the revised Project. In doing so, noise monitoring was conducted at various times during winter and summer to establish baseline data sets. This noise monitoring was undertaken in accordance with the guidelines set by the DEHP. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will comply with the new statutory noise limits and prevent adverse noise and vibration impacts at its neighbours' properties.

5.3.44.37 Issue 37

NAC has given notice in writing to the administering authority to partially abandon ML 50232. The boundaries for the revised Project are shown in **Section 5.1.2 of** the AEIS. The Acland town area is now excluded from the MLA.

The EA will be directly related to the 'mining activities' as defined under Section 110 of the EP Act occurring within the ML boundaries. NAC has prepared a series of environmental management plans for the revised Project. These Plans are located in **Appendix J** of the draft EIS.

5.3.44.38 Issue 38

The draft EIS assessed the potential for air quality impacts from the revised Project. The air quality assessment (**Chapter 9** of the draft EIS) found the revised Project is expected to comply with the ambient air quality objectives in the EPP (Air) provided NAC successfully implement a comprehensive air quality management strategy. The commitments made by NAC for the revised Project for air quality were presented in **Appendix L** of the draft EIS. NAC have made further commitments to more effectively manage the risk of air quality impacts in response to issues raised in submissions on the draft EIS. The updated Commitments Register is presented in **Appendix D** of the AEIS.

The potential for nuisance impacts from the revised Project can be reduced through effective communications with local stakeholders on air quality issues associated with mining activities. NAC will undertake consultation with local stakeholders where dispersion modelling predicts there is a potential for dust nuisance from the revised Project. The processes for communicating with local stakeholders are provided in the LSMP (**Appendix J.18** of the draft EIS).

All concerns about air quality will be investigated promptly and appropriate action will be taken to reduce legitimate nuisance impacts. A register of dust concerns will be maintained. The processes for recording and investigating dust concerns are provided in the Air Quality Management Plan (**Appendix J.10** of the draft EIS).

5.3.44.39 Issue 39

The draft EIS assessed the potential for noise impacts from the revised Project. The noise assessment found the revised Project is expected to comply with the noise objectives in the EPP (Noise) by implementing noise management and mitigation measures including reduced night time

operation and using attenuated equipment. For instance, (Refer to **Section 5.3.44.2** of the AEIS) it is envisaged that the Manning Vale East pit blocks closest to Acland will operate on a daytime only basis, unless adaptive monitoring of key environmental constraints allow otherwise. The Manning Vale East Pit will be closely monitored and managed to satisfy noise constraints at Acland and may include mitigation steps such as the reduction or cessation of mining operations during heightened sensitive periods.

NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will comply with the new statutory noise limits and prevent adverse noise and vibration impacts at its neighbours' properties. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS.

The commitments made by NAC for the revised Project for noise and vibration were presented in **Appendix L** of the draft EIS. In addition, NAC have made further commitments to more effectively manage the risk of noise impacts in response to issues raised in submissions on the draft EIS. The updated Commitments Register is presented in **Appendix D** of the AEIS.

5.3.44.40 Issue 40

NAC is in consultation with the DEHP regarding EA conditions for the revised Project. The EA for the revised project will result in more stringent conditions, for example, there will be an operational limit for single impulsive noise events L_{Amax} at night. Therefore, the revised Project will be required to operate under considerably stricter noise limits. With regard to the conditioning approach (complaint based), NAC directs the Private Submitter to the DEHP as the administering authority for this matter.

5.3.44.41 Issue 41

Comprehensive fauna surveys have been completed of the revised Project area over the past 13 years. The species observed during the fauna surveys are recorded in **Appendix G.5.1** of the draft EIS. The fauna survey methods and results are described in **Section 7.4** and **Section 7.5** of the draft EIS and **Section 3.2** and **Section 3.3** of **Appendix H.1** of the draft EIS.

The Cattle Egret (*Ardea ibis*) has been observed at the revised Project site. The Rufous Fantail (*Rhipidura rufifrons*) has not been observed during the surveys completed for the revised Project or earlier surveys undertaken by NAC. The Rufous Fantail has been recorded in the Queensland government Wildnet database for the Acland area.

Table 3-13 of **Appendix H.1** of the draft EIS lists the EPBC Act listed threatened species that are considered to be possibly found in the vicinity of the revised Project site. **Table 3-13** lists the Austral Cornflower as being known from the vicinity of the revised Project site.

The Rufous Fantail has not been included in **Table 3-13** as the species is not an EPBC listed threatened species. The Rufous Fantail is listed under the EPBC Act as a migratory species. However, 'migratory species' was not one of the controlling provisions under the EPBC Act for the

revised Project. From knowledge of the Rufous Fantail habitat, it is unlikely that this species would be located in the vicinity of the revised Project area, as there is a lack of dense sclerophyll or scrub forest that supports the species. If the species is found in the Acland area, it is making a very short term use of the area while it migrates during autumn from south-eastern Australia to warmer parts of Australia, for winter.

Additional species that are requested to be assessed are Grey Goshawk (Accipiter novaehollandiae), White-winged triller (Lalage tricolor), Glossy Ibis (Plegadis falcinellus), Spotted Jezabell (Delias aganippe) and a moth (Donuca lanipes). The surveys of the revised Project area have not been observed these species.

For information relating to the Austral Cornflower please refer to **Section 5.3.44.6** and **Section 5.3.44.32** of the AEIS.

5.3.44.42 Issue 42

As discussed in **Section 5.3.44.34** of the AEIS, NAC has prepared a KSMP for the revised Project which focusses on the protection of koalas and their habitat. The KSMP is located in **Appendix B** of the AEIS. In addition, NAC has prepared a CZMP which is provided in **Appendix J.6** of the draft EIS. This CZMP has been developed to ensure the protection of significant landscape features, and the enhancement of associated environmental values, during the implementation of the revised Project. In particular, the CZMP focusses on two key landscape features, namely Lagoon Creek and nearby Bottle Tree Hill.

Under the CZMP, NAC will develop and implement strategies and activities that fall within the revised Project and existing Mine areas, protect and enhance ecologically significant areas of remnant vegetation, and promote restoration of the Lagoon Creek riparian zone. NAC will concentrate conservation and rehabilitation efforts on selected sections of Lagoon Creek that are contained within the boundaries of the revised Project. NAC will also undertake additional conservation and rehabilitation measures around Bottle Tree Hill. More specifically, the CZMP aims to meet these objectives by providing guidance on the protection, rehabilitation and management of significant vegetation and habitat associated with the landscape features, including existing stands of REs 11.8.5 and 11.8.3 located on Bottle Tree Hill and remnant patches of REs 11.3.1, 11.3.2, 11.3.17, 11.3.21, 11.9.5, 11.9.10 and 11.9.13 located within the riparian zone of Lagoon Creek which are all important for the protection of the koala.

5.3.44.43 Issue 43

For information regarding this issue please refer to **Section 5.2.5.5** of the AEIS. In summary, NAC will continue to take all reasonable steps to keep the revised Project site free of pests and vermin. The APC will assist NAC with pest management related matters relating to the revised Project and its surrounding land. In general, the revised Project's pest management procedures have been designed to achieve the following broad objectives:

- promotion of an integrated approach to pest management;
- promotion of employee and contractor awareness about the impacts of pests;
- to reduce the economic, environmental and social impacts of pests;

- to reduce the establishment and spread of pests through a commitment and enforcement regime;
- adopt best practice approach to pest management; and
- improve the protection of environmentally sensitive areas located within the revised Project site.

A PWMP was provided in **Appendix J.9** of the draft EIS.

5.3.44.44 Issue 44

Since the commencement of mining activities, NAC has undertaken water tank sampling at locations within close proximity to the Mine. To date, there have been no exceedances of drinking water guidelines or standards. NAC acknowledges that these sampling events have not occurred at the Private Submitter's residence. In light of this, NAC would be willing to undertaken sampling of the Private Submitters rain water tank.

As discussed in **Section 5.3.44.38** of the AEIS, the air quality commitments made by NAC for the revised Project were presented in **Appendix L** of the draft EIS. NAC have made further commitments to more effectively manage the risk of air quality impacts. The updated Commitments Register is presented in **Appendix D** of the AEIS.

The potential for nuisance impacts from the revised Project can be reduced through effective communications with local stakeholders on air quality issues associated with mining activities. NAC will undertake consultation with local stakeholders where dispersion modelling predicts there is a potential for dust nuisance from the revised Project. The processes for communicating with local stakeholders are provided in the LSMP (**Appendix J.18** of the draft EIS) and is further explained in **Section 5.1.10** of the AEIS.

With regard to the enforcement of EA conditions, NAC directs the Private Submitter to the DEHP for this issue.

5.3.44.45 Issue 45

Section 9.4.1 of the draft EIS outlined the sources of air emissions and potential impacts. **Table 9-21** of the draft EIS describes the mitigation measures, in summary, that will be applied to the revised Project to prevent or minimise impacts. NAC has prepared a detailed Air Quality Management Plan for the revised Project. The Air Quality Management Plan is located in **Appendix J.10** of the draft EIS. In addition NAC have made further commitments to more effectively manage the risk of air quality impacts from its activities. The updated Commitments Register is presented in **Appendix M** of the AEIS.

It is common practice to supplement information from other relative studies in preparing comparative assessments. The Hunter Valley is a well-known mining region in New South Wales and information derived by mining companies for specific studies is useful for informing the reader about potential impacts. In this case, in order to benchmark the impacts of NO_x from blasting activities, NAC believes it appropriate to utilise the work completed by Attalla et al (2007).

Furthermore, NAC will be subject to strict EA conditions set by the DEHP. These conditions will include, amongst other things, limits for air quality from blasting activities.

5.3.44.46 Issue 46

As discussed in **Section 5.3.44.38** of the AEIS, the air quality commitments made by NAC for the revised Project were presented in **Appendix L** of the draft EIS. NAC have made further commitments to more effectively manage the risk of air quality impacts. The updated Commitments Register is presented in **Appendix D** of the AEIS.

NAC comprehensive approach to community consultation, engagement and complaints and dispute resolution is outlined in **Section 5.1.9**, **Section 5.1.10** of the AEIS and **Appendix J.18** of the draft EIS. These plans and approaches have been designed to engage with stakeholders regarding all matters including air quality issues and concerns.

The DEHP is the administering authority for issuing and policing environmental authorities in Queensland. It is NAC's legal obligation to comply with its statutory requirements as set out in the EA. Should the Private Submitter hold concerns about compliance matters, NAC directs this matter to the DEHP in the first instance.

5.3.44.47 Issue 47

For information regarding this issue please refer to **Section 9.4.5** and **Section 11.7.10** of the draft EIS.

5.3.44.48 Issue 48

For information regarding this issue please refer to **Section 5.3.44.2**, **Section 5.3.44.36**, **Section 5.3.44.38** and **Section 5.3.44.44** of the AEIS.

NAC has increased its consultation activities for the revised Project. Through the implementation of the LSMP, NAC have proposed a series of engagement points with local stakeholders. The LSMP is located in **Appendix J.18** of the draft EIS. Further information regarding proposed consultation activities is presented in **Chapter 5.1.10** of the AEIS.

NAC propose to publicly issue an environmental monitoring report on a monthly basis. The environmental monitoring report will present a summary of air quality, noise and vibration monitoring data. The environmental monitoring report will be made available to the public through the Proponent's website.

The updated commitment to issue an environmental monitoring report on a monthly basis has been included in the Commitments Register located in **Appendix D** of the AEIS.

5.3.44.49 Issue 49

NAC will implement the LSMP for the revised Project. The LSMP is provided in **Appendix J.18** of the draft EIS. **Section 5.1.9** of the AEIS outlines NACs approach to dealing with complaints and dispute resolution.

With regard to the compliance and enforcement of EA conditions, NAC directs the Private Submitter to the DEHP for this issue.

5.3.44.50 Issue 50

For information regarding this issue please refer to **Section 5.3.44.3** of the AEIS.

5.3.44.51 Issue 51

As discussed in **Section 4.2.1** of the draft EIS, the revised Project site has a history of grazing and small lot cropping. Predominant land use patterns of the revised Project site in addition to grazing of modified pastures have remained cash and forage cropping. Much of the revised Project site has long been cleared of its original vegetation due to agricultural production. Localised areas of original remnant vegetation remain alongside Lagoon Creek, relic alluvial plains and upland low hills. The revised Project site has been subject to long periods of continued dry year and unreliable rainfall since the early 1990's.

NAC acknowledges the effort taken by the Private Submitter to capture the various photographs of fauna observed within the region.

5.3.44.52 Issue 52

As discussed in **Section 5.3.44.10** of the AEIS, NAC proposes to construct a new TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering and profiling system. The TLF will be constructed to the latest design standards and through this process will implement features which are expected to reduce potential coal dust emissions. For example, through the use of a hopper feed to directly create the correct profile and prevent overloading. NAC wishes to confirm that the configuration of the TLF will not be similar to that provided by the Private Submitter of a site in Wyoming, United States of America.

5.3.44.53 Issue 53

For information regarding this issue, please refer to **Section 5.3.44.2, 5.3.44.3, 5.3.44.4, 5.3.44.22, 5.3.44.23, 5.3.44.40** and **5.3.44.46** of the AEIS.

5.3.45 Private Submitter 504

5.3.45.1 Issue 1

Refer to **Section 6** of the AEIS.

5.3.46 Private Submitter 508

5.3.46.1 Issue 1

Kudo-Silverleigh Road is located approximately 13 km east of the revised Project site. The traffic movements generated during the peak construction and operation phase for the revised Project are not anticipated to traverse Kudo-Silverleigh Road.

All NAC staff are advised to access the revised Project via Oakey-Cooyar Road and the northern access road as the key access for light vehicles to the mine site is via the northern access road. The revised Project and associated road closures are unlikely to result in an increase in traffic along Kudo-Silverleigh Road. There is no requirement to upgrade the road to a sealed road section.

NAC have detailed the complaints and dispute resolution processes and consultation activities for the revised Project **Sections 5.1.9** and **5.1.10** of the AEIS.

5.3.47 Private Submitter 510

5.3.47.1 Issue 1

For information regarding this matter, please refer to **Section 5.3.46.1** of the AEIS.

5.3.48 Private Submitter 511

5.3.48.1 Issue 1

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

5.3.48.2 Issue 2

Deposited dust from material handling operations (including mining and coal handling facilities) that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to the relevant approvals being obtained in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented

in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties, exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The percentage of coal in sediments of rainwater tanks varied from 1% to 25% based on analysis by SEM. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.48.3 Issue 3

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

5.3.48.4 Issue 4

The potential impact of the revised Project on flooding on Jondaryan was presented in **Chapter 5** of the draft EIS.

As stated in **Section 5.11.3** of the draft EIS, there is no increase in the extent of inundation or water surface levels on any properties not owned by NAC. Downstream of the new railway crossing there is a minor decrease in flood levels of approximately 0.2 m, a result of the railway embankment which attenuates the flood peak.

Section 5.11.3 of the draft EIS examined the changes to the duration of flooding and flood warning for Jondaryan. **Figure 5-19** of the draft EIS illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-19** of the draft EIS

illustrates that there is predicted to be a very minor increase in the time prior to the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway crossings. It is therefore considered that the revised Project will not have significant impacts on flood warning in Jondaryan.

In summary, the revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.48.5 Issue 5

Activities conducted for the revised Project will not have significant noise impacts on residents in Jondaryan. The revised Project is not predicted to exceed the noise objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS).

As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

NAC is required to comply with the noise conditions in the current DA for JRLF which outlines noise limits for daytime, evening and night time operations. If noise monitoring shows that activities conducted at the JRLF are not complying with the noise limits, NAC will undertake measures to resolve any legitimate complaints in consultation with affected residents.

NAC has implemented a new reversing system which utilises a broader noise spectrum at the JRLF. This system reduces the tonal qualities of the beepers and as a result the noise is less noticeable for residents. A major noise source generated from the activities at the JRLF is trains movements. Train movements to and from the JRLF do not pass through Jondaryan under normal circumstances.

NAC, in coordination with Aurizon, has implemented the following operational changes to reduce potential for noise impacts from trains on Jondaryan residents:

- Less idling of stationary locomotives in the vicinity of Jondaryan; and
- Shorter siren blasts as trains are approaching level crossings.

5.3.48.6 Issue 6

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.49 Private Submitter 512

5.3.49.1 Issue 1

NAC acknowledges the concerns of the Private Submitter as raised in their EIS submission. As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

NAC understands that the current use of the JRLF (as part of the Mine) has galvanised concerns within the township of Jondaryan. Therefore, NAC has undertaken a number of mitigation measures at the JRLF to reduce the potential of adverse air quality and noise impacts from coal loading operations on the residents of Jondaryan and its surroundings.

The current general dust mitigation measures for JRLF include:

- construction of a new domestic product coal pad further away from the township of Jondaryan (i.e. as a high movement pad);
- all domestic trucks entering and leaving the facility are covered to prevent dust emission;
- a water cart is employed on a constant basis to suppress dust on haul roads;
- the speed limit is restricted to less than 30 km/hr onsite;
- controlling the level and direction of traffic movements, including minimising turning requirements for truck traffic, to reduce fugitive dust generation from traffic movements;

- grading surfaces regularly to reduce silt content;
- maintaining a rumble strip to minimise track-out from site to public roads;
- sweeping of public access roads to reduce soiling due to track-out;
- the height of the stockpiles has been reduced to minimise the volume of fugitive dust generation;
- the watering of coal stockpiles and the surrounding access roads will continue on a regular basis; and
- where possible, access roads have been sealed with bitumen.

In addition, NAC has recognised water security is crucial for the effective environmental management of dust emissions from the site. Therefore, NAC has implemented of a range of additional impact mitigation initiatives at the JRLF including:

- introduction of a larger water truck to improve the watering regime;
- increasing the size of the main dam onsite to improve water capture, storage and availability for dust suppression purposes; and
- upgrade of the bore pump to improve water recovery for dust suppression purposes.

As discussed in **Section 9.4.5** of the draft EIS, in April 2013, NAC upgraded the JRLF to include a coal veneering system to minimise dust emissions from coal wagons. Veneering is the application of a biodegradable polymer onto the surface of the loaded coal. The veneer forms a crust over the coal load reducing in coal dust lift-off from wagons.

The physical properties of product coal (hard with a high moisture content) from the Mine help minimise dust generation from rail and road transport. Particulate levels in Jondaryan may also be affected by a number of other localised dust sources including dust from unsealed roads, domestic livestock activities, dust storms, agricultural activities, dust from rail movements on the Western Rail System, the Jondaryan Tip's operations, and light and heavy vehicle movements on the Warrego Highway.

As stated in **Section 9.2** of the draft EIS, the relevant ambient air quality goal regarding the health impacts of dust is PM_{10} goal of 50 µg/m3 (24 hour averaging period). The health effects of PM_{10} are of concern as these particles can enter the human respiratory system. In early-mid 2011, NAC implemented a real time dust monitoring program (TEOM's) around the JRLF which included TSP monitoring. The TEOMs were fully operational by June 2011. After a commissioning phase, NAC commenced public reporting of the results during July 2011 (i.e. for the previous month - June 2011). Correlation assessments have been carried out to determine the PM_{10} levels. These assessments have concluded that almost all calculated PM_{10} concentrations are below the ambient air quality goal of 50 $\mu g/m^3$ stated in the EPP (Air).

Furthermore, environmental monitoring results for TSP show that JRLF identified one event of an elevated result in the period January 2012 to December 2013. The elevated result was due to unregulated temperature in the TEOM unit.

In addition, historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and

meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC will continue to periodically review the effectiveness of the JRLF's impact mitigation measures, further investigate practical mitigation measures and seek expert air quality advice as required. NAC continue to regularly consult with the local Jondaryan community to resolve as legitimate complaints. In addition, it is important to note that NAC must maintain compliance with the strict legal operational limits of the JRLF's EA whilst still in operation to avoid regulatory action by the DEHP.

5.3.49.2 Issue 2

As stated in **Section 3.3.2** of the draft EIS, the JRLF will be decommissioned and a new TLF will be constructed approximately 8 km from the JRLF site, therefore, the activities conducted for the revised Project will not have significant noise impacts on residents in Jondaryan. Regardless, NAC has implemented a new reversing system which utilises a broader noise spectrum at the JRLF. This system reduces the tonal qualities of the beepers and as a result the noise is less noticeable for residents. A major noise source generated from the activities at the JRLF is trains movements. Due to the location of the JRLF to the east of Jondaryan train movements between the JRLF and QBH in Brisbane do not pass through Jondaryan under normal circumstances.

However, as part of ongoing consultation with Aurizon, NAC has implemented the following operational changes in an attempt to reduce noise impacts from trains on Jondaryan residents:

- less idling of stationary locomotives in the vicinity of Jondaryan; and
- shorter siren blasts as trains are approaching level crossings.

In addition, NAC is required to comply with the noise conditions in the current EA for JRLF which outlines noise limits for daytime, evening and night time operations. If noise monitoring shows that activities conducted at the JRLF are not complying with the noise limits, NAC will undertake measures to resolve any legitimate complaints in consultation with affected residents and in line with the current EA.

5.3.49.3 Issue 3

In the absence of any supporting evidence it is impossible to categorically state the correlation between the psychological state of residents with the township of Jondaryan and the operations conducted at the JRLF. Therefore, NAC cannot comment directly on the Private Submitter's statements in relation to depression statistics with Jondaryan. However people concerned about health issues are encouraged to seek professional medical advice to discuss concerns.

NAC will continue to periodically review the effectiveness of the JRLF's impact mitigation measures, further investigate practical mitigation measures and seek expert advice as required. NAC commit to regular consultation with the Jondaryan community and will collaborate to resolve all legitimate concerns as necessary.

For additional information regarding this matter, please refer to **Section 5.1.8** of the AEIS.

NAC is committed to ongoing consultation with key regulatory agencies including Darling Downs Hospital and Health Service (DDHHS) with respect to community health concerns about the revised Project.

5.3.49.4 Issue 4

As discussed in **Section 9.4.5** of the draft EIS, deposited dust from mining operations that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption. NAC undertook water quality sampling of rainwater tanks around the Mine during 2007 and 2009. Results of water quality sampling from rainwater tanks are presented in **Appendix G.6.5** of the draft EIS. The water quality sampling results for metals concentrations meet the recommended health and aesthetic guideline values in the ADWG. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project. NSW Health (2007) Options to protect water quality in rainwater tanks include:

- use drinking water grade PVC for fittings;
- inlet and overflow of the tank should incorporate a mesh cover and a strainer to keep out materials, such as leaves;
- cover the tank to prevent light reaching the water;
- discharge pipes from roof mounted appliances such as air conditioners should not be allowed to discharge onto the roof catchment;
- clean roof catchments and gutters of leaves and other debris every three or four months; and
- installation of first flush devices to prevent bird droppings and dust entering the rainwater tank after first rains.

NAC will undertake immediate actions to resolve these issues in consultation with affected residents if any future testing demonstrates non-compliance with the above guidelines. As standard practice NHG will investigate the matter, which generally includes sampling for water quality and sludge in the tank. In addition, NAC have developed a process for managing complaints from its operation, the process is presented in **Section 5.1.9** of the AEIS.

NAC will undertake immediate actions to resolve these issues in consultation with affected residents if any future testing demonstrates non-compliance with the above guidelines.

5.3.49.5 Issue 5

As discussed in **Section 5.11.3** of the draft EIS, the impact assessment changes to the duration of flooding and flood warning were examined for Jondaryan. **Figure 5-19** of the draft EIS illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-19** illustrates that there is predicted to be a very minor increase in the time prior to the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway crossings. It is therefore considered that the revised Project will not have significant impacts on flood warning in Jondaryan.

In addition, **Section 5.15** of the draft EIS describes that the revised Project site is located within the Lagoon Creek catchment of the greater Condamine River catchment. Lagoon Creek is an ephemeral creek, with a shallow, narrow poorly defined channel and wide floodplains. The creek has been moderately disturbed through past agricultural practices including a number of in-stream dams. NAC is not proposing to divert or alter the Lagoon Creek channel and has offset the revised Project's resource areas from the creek bank by approximately 150 m. Importantly, the 150 m operational offset includes a commitment by NAC to a 50 m 'no mining' buffer to promote the re-establishment of the creek's riparian zone. The buffer distance either side of Lagoon Creek within the revised Project area will be incorporated into the Mine's current conservation zone, NAC will expand the existing Lagoon Creek monitoring program as part of the WRMP for the revised Project. The WRMP is located in **Appendix J.4** of the draft EIS.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.50 Private Submitter 513

5.3.50.1 Issue 1

Deposited dust from material handling operations (including mining and coal handling facilities) that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties,

exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources. The source of the metals is unlikely to be from mining operations which are located approximately 15 km northeast of Jondaryan. Coal was identified in all tank sediment samples with percentages ranging from 1% to 25%. Following the water quality testing, NAC provided information to residents on managing tank water for microbiological contaminants i.e. flushing and filtration.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at five locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.50.2 Issue 2

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

5.3.50.3 Issue 3

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan.

NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.51 Private Submitter 514

5.3.51.1 Issue 1

As discussed in **Section 7.1.1**, **Appendix J.4** of the draft EIS, the WRMP will be reviewed every 12 months prior to the end of September and after any event involving the uncontrolled release of water to the environment. The review will consider any updates to the system, predictions from the water balance model and any changes to regulatory or licensing conditions.

As discussed in **Section 2.1.1**, **Appendix J.4** of the draft EIS, NAC's current water quality monitoring program will be expanded to incorporate the operational and decommissioning phases of the revised Project. The program is designed to ensure the WRMP is effective, to demonstrate compliance with Mine's strict discharge limits, and to ensure the downstream water quality (physico-chemical parameters, at a minimum) is not being adversely impacted. The WRMP will include the following actions.

- Water quality will be measured upstream and downstream of the revised Project site.
- Basic water quality indicators (i.e. Salinity, pH, DO, EC, temperature) will continue to be monitored on a monthly basis, or when water is present, and heavy metals, nutrients, anions and cations will be monitored twice annually at sensitive sites.
- During any release event the receiving water will be monitored upstream (50 m to 100 m upstream of the release point) and downstream (200 m downstream of the release point) locations. Water quality variables will include basic water quality indicators, suspended solids, heavy metals, nutrients, anions and cations.
- Progressive rehabilitation of areas impacted by operational activities will be undertaken in order to reduce the total amount of expose soil.
- Safe and environmentally responsible management of fuels, dangerous goods, hazardous chemicals and work shop waste will be maintained over the life of the revised Project.

As discussed in **Section 5.1.9** and **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for stakeholders to assist in

the understanding of proposed mitigation measures and management of impacts as outlined in the various management plans for the revised Project.

5.3.51.2 Issue 2

The development of monitoring bore water quality trigger levels under the revised Project's EA will address the key water quality indicators and groundwater trigger levels. NAC is committed to collaboration with DEHP to develop appropriate water quality indicators and receiving water trigger levels as part of the revised Project's EA.

5.3.51.3 Issue 3

As discussed in **Section 2.1**, **Appendix J.13** of the draft EIS, regulated wastes are non-domestic wastes that are defined by Schedule 7 of the EPR. Regulated wastes are required to be handled by a certified registered waste transporter and must be disposed of at an appropriately licensed facility under documentation. The transport and removal of all regulated wastes is currently conducted by appropriately qualified and certified contractors. Waste Transportation Certificates are obtained for all regulated wastes removed and retained by NAC. Regulated wastes currently generated at the Mine are expected to be generated for the revised Project.

For example, waste tyres generated by NAC for the revised Project will be stored near the workshop until a volume of tyres is present that necessitates dumping. A suitable area (that has been previously mined in either the Manning Vale East, Manning Vale West and/or the Willeroo mine pits) of pit floor as deep as possible but not in the region of an expressing aquifer will be prepared; the tyres will be then dumped, and surveyed as appropriate. Alternatively, tyres will be stored and transported off-site by a licenced regulated waste transporter to a licensed regulated waste receiver.

In addition, the model mining conditions prepared by the DEHP state in Schedule C – Waste Management that:

All general and regulated waste (other than for example, waste rock, scats , rejects, tailings, construction and demolition waste, putrescibles and domestic wastes, minor quantities of regulated wastes incidental to and commingled with domestic waste, green wastes, tyres) must be removed from the site to a facility that is lawfully able to accept the waste under the EP Act.

Regulated waste, other than that authorised to be disposed of on-site under this authority, must only be removed and transported from the site by a person who holds a current authority to transport such wastes to a facility that is lawfully able to accept the waste under the EP Act.

For the disposal and storage of scrap tyres, reference to Operational policy—Disposal and storage of scrap tyres at mine sites EM729 should be made on the administering authority's website at www.ehp.qld.gov.au.

For additional information regarding this matter, please refer to **Section 5.3.51.4** of the AEIS.

5.3.51.4 Issue 4

The waste management requirements for the revised Project were presented in **Chapter 14** of the draft EIS. The waste management requirements for waste tyres and lubricants

- Tyres will be stored and disposed of in the spoil dumps or transported off-site by a licensed regulated waste transporter to a licensed regulated waste receiver for recycling or disposal. The disposal of waste tyre from mining operations in spoil dumps is consistent with standard practice in the mining industry in Australia. Properly constructed landfill storage of whole tyres does not represent an environmental risk (Sustainable Strategic Solutions, 2006).
- Waste lubricants will be collected and stored in a bunded tank with waste oil. Waste oil will be transported off site by a licensed regulated waste transporter, to a licensed regulated waste receiver, for recycling or treatment and disposal.

In **Section 14.7** of the draft EIS, NAC detailed their commitments to waste management including a commitment to undertake waste monitoring and auditing.

5.3.51.5 Issue 5

As discussed in **Table 14-1** of the draft EIS and in addition, NAC will manage its waste in accordance with the waste hierarchy and will re-use where possible, cleared vegetation for habitat enhancement, disposed of in waste dumps or raked up. The revised Project's is not expected to clear large amounts of vegetation at the construction phase.

5.3.51.6 Issue 6

NAC will ensure that all waste materials are disposed of in accordance with current waste management legislation. All residues resulting from blasting activities will be oxidised during the blast process and therefore present an insignificant risk to groundwater resources.

5.3.51.7 Issue 7

NAC have noted the submitters concerns associated with noise and vibration impacts associated with the transportation of product coal on the rail line in Oakey. NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

NAC, in coordination with Aurizon, has implemented the operational changes to reduce potential for noise impacts from trains on Jondaryan residents, including shorter siren blasts as trains are approaching level crossings.

5.3.51.8 Issue 8

For information regarding this matter, please refer to **Section 5.3.44.5**, **Section 5.3.44.33** and **Section 5.3.51.17** of the AEIS.

Furthermore, NAC is committed to the protection, maintenance and potential enhancement of Tom Doherty Park. In addition, NAC acknowledges the Private Submitter's information in relation to the Acland War Memorial described through the submission. Significant aspects of Tom Doherty Park such as the Acland War Memorial are planned to be managed through the implementation of the AMP. The AMP is located in **Appendix I** of the AEIS.

5.3.51.9 Issue 9

In order to reduce the revised Project's impact on SCL amongst other project components, the majority of the Willeroo mine pit's elevated landform is located within an approved ML 50216 as part of the Mine. Therefore, NAC possesses the legal right to conduct mining activities (which includes overburden dumping) within ML 50216. NAC has provided a mine footprint that is significantly reduced from that proposed under the original proposal. This mine plan represents the minimum disturbance area that will result in an economically viable operation. The requirements for SCL assessment is now covered under the RPI Act. NAC will ensure compliance to the requirements of the RPI Act as they relate to the revised Project.

NAC refutes the claim made by the Private Submitter that since the inception of the APC that the land has not been managed appropriately. For information regarding this matter, please refer to **Section 5.3.44.43**, **Section 5.3.51.12** and **Section 5.3.51.18** and **Section 5.3.51.35** of the AEIS.

For information regarding access to Acland, please refer to **Section 5.3.51.17** of the AEIS.

5.3.51.10 Issue 10

NAC refutes the claim made by the Private Submitter that since the inception of the APC that the land has become overrun with Boxthorn. For information regarding this matter, please refer to **Section 5.3.44.43**, **Section 5.3.51.12** and **Section 5.3.51.18** and **Section 5.3.51.35** of the AEIS.

5.3.51.11 Issue 11

The Private Submitter has questioned the omission of EPC 919 from **Figure 3-2** of the draft EIS. NAC wish to advise that EPC 919 is not part of the revised Project. However, NAC recognise that EPC 919 is located in close proximity to the revised Project's tenement. MLA 50232 is the focus of the revised Project's footprint, therefore is required to be displayed for assessment purposes.

5.3.51.12 Issue 12

As discussed in **Section 5.3.44.33** of the **AEIS**, NAC has prepared a CZMP which is provided in **Appendix J.6** of the draft EIS. This CZMP has been developed to ensure the protection of significant landscape features, and the enhancement of associated environmental values, during the implementation of the revised Project. In particular, the CZMP focusses on two key landscape features, namely Lagoon Creek and nearby Bottle Tree Hill.

Under the CZMP, NAC will develop and implement strategies and activities that fall within the revised Project and existing Mine areas, protect and enhance ecologically significant areas of remnant vegetation, and promote restoration of the Lagoon Creek riparian zone. NAC will concentrate

conservation and rehabilitation efforts on selected sections of Lagoon Creek that are contained within the boundaries of the revised Project. NAC will also undertake additional conservation and rehabilitation measures around Bottle Tree Hill. More specifically, the CZMP aims to meet these objectives by providing guidance on the protection, rehabilitation and management of significant vegetation and habitat associated with the landscape features, including existing stands of regional ecosystems (REs) 11.8.5 and 11.8.3 located on Bottle Tree Hill and remnant patches of REs 11.3.1, 11.3.2, 11.3.17, 11.3.21, 11.9.5, 11.9.10 and 11.9.13 located within the riparian zone of Lagoon Creek.

To control fire fuel loads efficiently, targeted grazing may be employed within the revised Project's conservation management zone. This specific use of grazing will be very limited in terms of application (timing and extent), will be closely managed and monitored, and will not be applied to any newly planted areas. APC will provide advice and manage all targeted grazing undertaken for fire control purposes within the revised Project's conservation management zone.

Apart from the purpose of efficient fire control, grazing will generally be excluded from the revised Project's conservation management zone (i.e. with the exception of periodic crossings by the APC's farming activities). The APC grazing and other farming activities may require periodic crossing of the revised Project's conservation management zone. The APC will ensure that crossing of the revised Project's conservation management is kept to an operational minimum, that no excessive disturbance is caused by crossing events, and that crossing events will avoid sensitive areas (e.g. newly planted areas).

In general, NAC will fence and signpost the revised Project's conservation management zone to increase the level of protection and minimise the risk of accidental disturbance.

5.3.51.13 Issue 13

Baseline water quality conditions are described in the draft EIS in sufficient detail to assist in making a decision on the revised Project. NHG commits to conducting more detailed characterisation of baseline water quality conditions prior to the revised Project construction, as these additional data will be required for the purposes of monitoring compliance with EA conditions. The ephemeral flow conditions of waterways within the revised Project site requires regular monitoring involving rapid responses to rain events in order to comprehensively describe water quality conditions. The results of water quality monitoring presented in the draft EIS provide information on the general environmental characteristics of Lagoon Creek, for the purposes of describing the existing environment during a range of flow conditions. However, such monitoring is not sufficiently detailed to make conclusions about the environmental impacts of existing land uses within the catchment, such as mining or agriculture.

NHG commits to develop and implement a REMP in consultation with the DEHP, to achieve a more detailed characterisation of baseline water quality conditions. The REMP will describe the objectives of water quality monitoring, show the location of all monitoring sites, and describe the methods that will be implemented to determine water quality in upstream reference sites, within mine storages and downstream of mining activities. The REMP will be developed in accordance with the ANZECC/ARMCANZ (2000) water quality guidelines and the Queensland Water Quality Guidelines.

In relation to water quality data presented in **Table 5-6** of **Chapter 5** of the draft EIS, the following clarifications are provided in relation to the number of samples:

- The number of samples used to characterise water quality at Oakey Creek at Fairview was n=127 (temperature), n=59 (turbidity), n=65 (pH), n=57 (dissolved oxygen), n=114 (sulphate) and n=115 (EC).
- The number of samples used to characterise water quality at LCU1 was n=43 (temperature), n=41 (suspended solids), n=61 (pH), n=26 (sulphate) and n=55 (EC).
- The number of samples used to characterise water quality at LCD1 was n=50 (temperature), n=57 (suspended solids), n=83 (pH), n=71 (sulphate) and n=74 (EC).
- The number of samples used to characterise water quality at LCD2 was n=36 (temperature), n=27 (suspended solids), n=60 (pH), n=50 (sulphate) and (EC).

Discharges of water to Lagoon Creek will be subject to conditions of the EA for the revised Project, issued by DEHP, to mitigate and monitor potential impacts on aquatic ecosystems.

5.3.51.14 Issue 14

As discussed in **Section 5.3.44.9** of the AEIS, the revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2 % of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek.

The flooding assessment undertaken in the draft EIS covers Lagoon Creek to Jondaryan. The highest point between Lagoon Creek and Doctors Creek near Jondaryan is 8 m higher than Doctors Creek. Therefore, Lagoon Creek and Doctors Creek are considered to be independent in their flooding regimes and the assessment of flooding in a flood model for Doctors Creek is not considered to be required for the draft EIS.

Furthermore, as discussed in **Section 5.11.3** of the draft EIS, the impact assessment changes to the duration of flooding and flood warning were examined for Jondaryan. **Figure 5-19** of the draft EIS illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-19** illustrates that there is predicted to be a very minor increase in the time prior to the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway crossings. It is therefore considered that the revised Project will not have significant impacts on flood warning in Jondaryan.

Section 5.15 of the draft EIS describes that the revised Project site is located within the Lagoon Creek catchment of the greater Condamine River catchment. Lagoon Creek is an ephemeral creek, with a shallow, narrow poorly defined channel and wide floodplains. The creek has been moderately disturbed through past agricultural practices including a number of in-stream dams. NAC is not proposing to divert or alter the Lagoon Creek channel and has offset the revised Project's resource areas from the creek bank by approximately 150 m. Importantly, the 150 m operational offset includes

a commitment by NAC to a 50 m 'no mining' buffer to promote the re-establishment of the creek's riparian zone. The buffer distance either side of Lagoon Creek within the revised Project area will be incorporated into the Mine's current conservation zone, NAC will expand the existing Lagoon Creek monitoring program as part of the WRMP for the revised Project. The WRMP is located in **Appendix J.4** of the draft EIS.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the flooding assessment (as discussed in **Section 5.3.44.9** of the AEIS**, Section 5.11.3, Section 5.15** and **Appendix J.4** of the draft EIS) indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project. Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.51.15 Issue 15

For information regarding this matter, please refer to **Section 5.3.51.14** of the AEIS.

5.3.51.16 Issue 16

As discussed in **Section 5.3.44.11**, the Private Submitter may be aware that under the original proposal, the AHPAC was established in 2007 under the provisions of Section 452 of the *Local* LG Act as a Committee of Council by the former RSC. The AHPAC was identified as a consultative forum to discuss the preservation of items of significant heritage value to the local community and to support the initiative of establishing a heritage precinct to ensure the preservation of Acland's heritage. The AHPAC was suspended in early 2008 during the amalgamation of the RSC into the TRC, as part of the wider Council amalgamations undertaken across Queensland at the time. In September 2008, members of the community who established the AHPAC and representatives from the TRC and NAC came together to re-establish the AHPAC as a consultative forum to facilitate further deliberations regarding matters of potential European cultural heritage and to allow contributions to establishing a possible heritage precinct for the long term protection and display of locally significant heritage items. The main administrative functions of the AHPAC were to provide a recommendation to the TRC on the location of an appropriate site which could be developed into an 'Acland Heritage Precinct' and to create a list of community assets considered suitable for relocation to the selected precinct site.

Under the revised Project, the majority of the items identified through the process will remain intact and will not be removed by NAC. However, as discussed in **Table 3-28** of the draft EIS, some items will require management attention. The AMP provides details of NAC's commitment to the management of these items. The AMP is located in **Appendix I** of the AEIS.

As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for

landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC.

5.3.51.17 Issue 17

As discussed in **Section 5.3.44.5**, **Section 5.3.44.6** and **Section 5.3.44.33** of the AEIS, should the revised Project be approved, there will be a number of road closures that may impact travel distances for the community and services depending on location of travel. The access roads to the north, west and east of Acland will be required to be closed as these locations will be part of active mining operations. Furthermore, **Section 5.1.6** of the AEIS provides an assessment of the impact to near landholders affected by road closures and diversions.

It is NAC's intention to upgrade the Acland-Sabine road as discussed in **Section 13.6.3** of the draft EIS to ensure appropriate access and safety for the residents of Acland and all transport using this road to access Acland. Acland-Sabine Road runs north-west connecting the Sabine area with Acland. It is an unsealed two-way, undivided two-lane rural road in rolling terrain. Acland-Sabine Road is currently owned and managed by TRC.

In general, those areas which are currently not sealed will be sealed appropriately in line with TMR standards for road re-surfacing. NAC will consult with all nearby landholders potentially affected by the Acland-Sabine Road at the appropriate time. NAC will ensure that all works are completed in accordance with the relevant agencies safety protocols. NAC has no intention to closing any roads unnecessarily in Acland and its surrounds. The roads that have been identified for closure are as a result of the traffic assessment conducted for the draft EIS and preliminary engineering studies.

As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC.

5.3.51.18 Issue 18

NAC currently employs approximately 300 people at the Mine. Employment for the revised Project is expected to average around 412. A significant number of indirect jobs will also continue to be created through the use of local support industries and through local expenditure as part of day-to-day living by NAC's employees, who on average generally possess a higher household income.

As discussed in **Chapter 17** of the draft EIS, NAC's total expenditure over the life of the revised Project is estimated at $6.6 billion. The equivalent loss of agricultural value during the same period is estimated at $29.6 million as noted in **Section 5.1.11** of the AEIS. Therefore, from a pure economic perspective, the revised Project possesses a significant benefit despite the short term loss of agricultural production.

Importantly, as a result the NHG's sustainability vision and holistic approach to land management within the Acland district, the APC will continue to manage the post mined and surrounding land as an agricultural enterprise into the future, which will secure on-going farm based employment and agricultural production at the cessation of mining in the Acland district. The APC as a larger farming

business in the Acland district will also possess the advantage of 'economies of scale' through the amalgamation of smaller farm blocks that were no longer economically viable on an individual basis and were potentially being managed in a detrimental manner as a result of income pressures to meet the daily cost of living. This trend in the growth of farm size to increase profitability is consistent with current trends in recent within the agricultural sector (Hooper et al. 2002) and will become a significant factor for the agricultural sector with the continued push to improve Australia's agricultural production into the future and as small family-owned and managed farms continue to struggle within the current economic circumstances (e.g. poor commodity prices and increasing farm costs).

Therefore, NAC disagrees with the Private Submitter's assertions around employment and farming and believes the suggested solution is unreasonable given the current economic and employment predictions for the revised Project, the lack statutory grounds for government involvement and the absence of objective evidence. The Private Submitter's alternative solution may be a viable post mining land use, but would require additional investigations to establish a full business case for consideration by the NAC.

In addition, a comprehensive assessment of the economic impact on agricultural production is discussed in **Section 5.1.11.5** of the AEIS.

5.3.51.19 Issue 19

As discussed within **Section 5.1.4.2** of the AEIS, the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. A two year construction period is required to complete and commission the new rail spur and balloon loop and new TLF (i.e. as replacement coal handling and loading structures for the JRLF). Completion and commissioning of the new TLF will allow the cessation of train loading activities at the JRLF. Following the cessation of train loading activities at the JRLF, decommissioning and rehabilitation of the actual JLRF site will be conducted over a two year period (approximate).

For further information regarding this matter, please refer to **Section 5.1.4** of the AEIS.

5.3.51.20 Issue 20

As stated in **Section 3.3.2** of the draft EIS, the JRLF will be decommissioned and a new TLF will be constructed approximately 8 km from the JRLF site, therefore, the activities conducted for the revised Project will not have significant noise impacts on residents in Jondaryan. Regardless, NAC has implemented a new reversing system which utilises a broader noise spectrum at the JRLF. This system reduces the tonal qualities of the beepers and as a result the noise is less noticeable for residents. A major noise source generated from the activities at the JRLF is trains movements. Train movements to and from the JRLF do not pass through Jondaryan under normal circumstances.

However, as part of ongoing consultation with Aurizon, NAC has implemented the following operational changes in an attempt to reduce noise impacts from trains on Jondaryan residents:

- less idling of stationary locomotives in the vicinity of Jondaryan; and
- shorter siren blasts as trains are approaching level crossings.

In addition, NAC is required to comply with the noise conditions in the current EA for JRLF which outlines noise limits for daytime, evening and night time operations. If noise monitoring shows that activities conducted at the JRLF are not complying with the noise limits, NAC will undertake measures to resolve any legitimate complaints in consultation with affected residents and in line with the current EA.

5.3.51.21 Issue 21

Deposited dust from material handling operations (including mining and coal handling facilities) that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to the relevant approvals being obtained in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties, exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The percentage of coal in sediments of rainwater tanks varied from 1% to 25% based on analysis by SEM. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at five locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local

community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.51.22 Issue 22

For information regarding the new rail spur and balloon loop, please refer **Chapter 3** of the AEIS.

The flood assessment carried out for the revised Project included the new rail spur and balloon loop. The results of this assessment are presented in **Chapter 5** of the draft EIS and **Section 5.2.4** of the AEIS.

For information regarding SCL matters, please refer to **Section 5.3.51.9** of the AEIS.

The rail spur crosses land used for agriculture and has been cleared for many years. The rail spur also crosses Lagoon Creek that is a shallow depression that lacks riparian vegetation. The agricultural use of the land along the rail spur alignment has principally been included cropping, which has resulted in the clearing of vegetation to allow the planting of crops and pastures.

An area of remnant vegetation is located at the southern end of the rail spur alignment, south of Lagoon Creek and north of the Jondaryan-Sabine Road. This vegetation is Eucalyptus populnea woodland (RE 11.3.2) and Eucalyptus populnea woodland with Acacia harpophylla and/or Casuarina cristata (RE 11.3.17).

5.3.51.23 Issue 23

As discussed in **Section 9.4.5** of the draft EIS and **Section 5.3.49.1** of the AEIS, in April 2013, NAC upgraded the JRLF to include a coal veneering system to minimise dust emissions from coal wagons. NAC will continue to periodically review the effectiveness of the JRLF's impact mitigation measures, further investigate practical mitigation measures and seek expert air quality advice as required. NAC continue to regularly consult with the local Jondaryan community to resolve as legitimate complaints. In addition, it is important to note that NAC must maintain compliance with the strict legal operational limits of the JRLF's EA whilst still in operation to avoid regulatory action by the DEHP.

NAC recommends that the Private Submitter liaise with the relevant administering authority regarding this matter.

5.3.51.24 Issue 24

As discussed in **Section 4.3**, **Appendix J.1** of the draft EIS, surrounding groundwater use will be the subject of on-going monitoring as part of the revised Projects EA. In terms of the In-Pit Tailings Storage Facilities (ITSFs), groundwater issues include water quality and any potential connectivity with surrounding aquifers. During design and planning stages of existing ITSFs, no groundwater resources at current excavation depths that have the potential for impact by in-pit tailings disposal were identified in the vicinity of the Mine. The tailings produced as a result of the revised Project will be deposited into ITSF 4 & ITSF 5 within the Centre Pit void area on the current mining lease. Therefore, it is considered unlikely that the area designated for the disposal of tailings from the revised Project will result in impacts on groundwater resources. Monitoring to date has shown that there is no evidence that ITSF seepage has occurred into any localised shallow basalt and deeper coal measure aquifers. However,

the potential seepage from the ITSF infiltrating the localised shallow basalt and deeper coal measure aquifers will be monitored by NAC's groundwater monitoring regime under the revised Projects EA.

5.3.51.25 Issue 25

NAC will be subject to rehabilitation requirements outlined in the revised Project's EA. NAC will utilise the APC and its experience on the Mine to assist in the rehabilitation management of the revised Project. With regard to NAC's mining, final landform and rehabilitation approach, please refer to **Appendix G.1.8** and **Appendix J.2** of the draft EIS.

5.3.51.26 Issue 26

For information regarding this matter refer to **Section 5.3.44.2** of the AEIS.

As discussed in **Chapter 1**, **Section 5.1.7**, **Section 5.1.9**, **Section 5.1.10** of the AEIS, NAC will extend its communication program to include further consultation, liaison and potential involvement for landholders and residents to assist in the understanding of proposed mitigation measures and management of Acland and confirm how other management plans will be implemented by NAC.

NAC recommends that the Private Submitter liaise with the relevant administering authority regarding this matter.

5.3.51.27 Issue 27

There will be no water contained within the new TLF as part of the revised Project. In addition, there are no flood levees planned for the construction of the new TLF as the construction embankment will act as a levee itself.

The rail spur corridor will be typically 40 m wide (20 m from the rail centreline to the boundary fence), as described in **Section 13.6.4** of the draft EIS. The construction of the rail spur will result in the clearing of the 1.5 ha of Poplar Box woodland, south of Lagoon Creek and north of the Jondaryan-Sabine Road. The width of clearing in this patch of Poplar Box will be limited to 40 m to reduce the loss of vegetation within this community. The remainder of the rail spur alignment will not impact other areas of native vegetation.

As discussed in **5.3.52.9** of the AEIS, NAC has provided a mine footprint that is significantly reduced from that proposed under the original proposal. This mine plan represents the minimum disturbance area that will result in an economically viable operation. The requirements for SCL assessment is now covered under the RPI Act. NAC will ensure compliance to the requirements of the RPI Act as they relate to the revised Project.

The rail spur and balloon loop will designed to meet the engineering standards set down by QR. NAC will continue to consult with QR Rail Ltd on a regular basis to assist the efficient and safe operation of the rail spur and balloon loop. For further information regarding the JRLF, please refer to **Section 5.1.4**, **Section 5.3.44.10**, **Section 5.3.44.52**, **Section 5.3.49.1**, **Section 5.3.49.2**, **Section 5.3.49.3**, **Section 5.3.51.19**, **Section 5.3.51.20**, **Section 5.3.51.21**, and **Section 5.3.51.23** of the AEIS.

As depicted and discussed in **Section 3.1** of the AEIS, NAC has provided revised rail and road infrastructure corridors for the revised Project. These minor amendments are a result of FEED studies for certain infrastructure components for the revised Project. Further detailed design studies are currently underway. Information regarding flooding impacts in Jondaryan as a result of the revised Project (including the location of the new rail spur and balloon loop) is provided in **Section 5.3.49.5** of the AEIS.

5.3.51.28 Issue 28

For information regarding this matter, please refer to **Chapter 17** of the draft EIS and **Section 5.1.11** of the AEIS.

5.3.51.29 Issue 29

For information regarding this matter, please refer to **Chapter 17** of the draft EIS, **Section 5.1.11** of the AEIS.

5.3.51.30 Issue 30

For information regarding this matter, please refer to **Section 5.1.6** and **Section 5.3.51.17** of the AEIS.

5.3.51.31 Issue 31

NAC believes that a comprehensive flooding assessment has been undertaken for the revised Project. Furthermore, additional information regarding this matter, please refer to **Chapter 5** of the draft EIS and **Section 5.1.5, Section 5.2.4** and **Section 5.2.9** of the AEIS.

5.3.51.32 Issue 32

As discussed in **Section 18.4.1** of the draft EIS, the risk assessment for the revised Project was carried out in accordance with the AS/NZS ISO 31000:2009 Risk Assessment and HB436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004. This International Standard and accompanying handbook provides the principles and guidelines for establishing the context, identification, analysis, treatment and monitoring of risk. The standard is generic, as it recognises that the design of the risk assessment will need to account for the objectives of the analysis, the needs of an organisation and its products and services, and the process and practices used by the organisation. Therefore, NAC consider the risk assessment provided in **Chapter 18** of the draft EIS is appropriate for the revised Project.

NAC refutes the claim made by the Private Submitter that since the inception of the APC that the land has not been managed appropriately. For information regarding this matter, please refer to **Section 5.3.44.43**, **Section 5.3.51.12** and **Section 5.3.51.18** and **Section 5.3.51.35** of the AEIS.

NAC approach to complaint and dispute resolution is presented in **Section 5.1.9** of the AEIS.

5.3.51.33 Issue 33

A very high EC value of 8089.6 µS/cm was recorded at Site 3 within Lagoon Creek on 23 January 2008 (**Table 3-14 Appendix J.19**). This result is an order of magnitude higher than the EC result for other sites within Lagoon Creek, which ranged from 463 to 642 µS/cm (n=4). The high EC value for Site 3 can be considered an outlier and is unlikely to be representative of the EC values within the waterway in general. Such a result may have been caused by an error in the water quality instrument which recorded the data. One possible exception to this conclusion is that at times during periods of dry weather, small stagnant pools will form along Lagoon Creek, and these may have high levels of EC as a result of evaporation and concentrations of salts within the remaining waters of the pool. **Photograph 5-2** in **Chapter 5** of the draft EIS provides an illustration of how such pools may form during dry periods, following a rainfall event. In this context, small isolated pools containing water with high EC would be a temporary feature of the Lagoon Creek waterway at certain times.

The pH values at all sampling sites within Lagoon Creek ranged from 8.03 to 8.91 (n=5), which is well above the guideline of 6.5 to 7.5 (**Table 3-14 Appendix J.19**). These high pH values are likely to be a consequence of alkalinity and salinity in the soils of the surrounding sub-catchment. A 'first flush effect' from runoff from the surrounding catchment following a rain event is likely to occur in this ephemeral waterway, with high pH and EC values during the first phases of the flow event, which are relatively short in duration (hours to days). During periods of sustained flow from continuous rainfall, the EC and pH would be expected to gradually decrease, following the influence of the 'first flush' period.

The highly variable results in water quality parameters are a consequence of the ephemeral flow conditions of Lagoon Creek. Results for Arsenic in **Table 5-7** of the draft EIS are presented in µg/L and were below the guideline value at all sites (which was presented in mg/L rather than µg/L).

Section 3.7.1 within **Appendix J.19** of the draft EIS provides a description of a no mining buffer zone to promote re-establishment of the creek's riparian vegetation. A detailed CZMP was also provided in the draft EIS as **Appendix J.6**. Collectively, these documents outline the approach to maintaining riparian habitat along Lagoon Creek.

NHG commits to develop and implement a REMP in consultation with the DEHP, to achieve a more detailed characterisation of baseline water quality conditions. The REMP will describe the objectives of water quality monitoring, show the location of all monitoring sites, and describe the methods that will be implemented to determine water quality in upstream reference sites, within mine storages and downstream of mining activities. The REMP will be developed in accordance with the ANZECC/ARMCANZ (2000) water quality guidelines and the Queensland Water Quality Guidelines. Discharges of water to Lagoon Creek will be subject to conditions of the EA for the revised Project, issued by DEHP, to mitigate and monitor potential impacts on aquatic ecosystems.

5.3.51.34 Issue 34

NAC understands the importance of cultural flows to indigenous Australians and believes that this has not been disregarded as suggest by the Private Submitter in the assessment of the revised Project.

As discussed in **Chapter 12** of the draft EIS, the only statutory Aboriginal party for the whole of the area of MDL 244, including those areas out of which MLs 50170 and 50216 have been granted and

MLA 50232 is being sought, comprises those people who together were the registered native title claimant for the former Western Wakka Wakka People native title claim.

As previously noted, in accordance with section 87 of the ACH Act, NAC will require an approved CHMP for the revised Project unless an exemption applies under section 86 of the ACH Act. One such exemption would be triggered if the revised Project were the subject of an 'existing agreement' for the purposes of the ACH Act. In this regard, NAC possesses a signed 'Co-operation Agreement' with the Western Wakka Wakka People dated 15 October 2003. This Co-operation Agreement applies to the land within MDL 244, which encompasses MLs 50170, 50216 and MLA 50232. In addition, NAC possesses a signed CHMP with the Western Wakka Wakka People dated 14 July 2006. This CHMP applies to the land within MDL 244. All documents between NAC and the Western Wakka Wakka People are confidential and will only be discussed in general terms for the purpose of the EIS.

NAC also proposes to develop with the Western Wakka Wakka People Aboriginal party, and have approved, a replacement CHMP under Part 7 of the ACH Act for the revised Project (including the rail spur). NAC's intention is for this CHMP to be the sole instrument governing the management of Aboriginal cultural heritage that may be affected by activities carried out both for the revised Project within the boundaries of MDL 244 and for the proposed rail spur. Analyses undertaken for the route of the rail spur and the area of MLA 50232 indicate that native title has been extinguished over the whole of these areas. In the circumstances, the proposed grant of the mining leases and of any other statutory approvals or tenure for the revised Project will be valid from a native title perspective

In summary, the Co-operation Agreement and CHMP with the Western Wakka Wakka People for the management of land within MDL 244 define the: establishment, roles and responsibilities of a Co-ordinating Committee for management of

- Aboriginal Cultural Heritage issues;
- objectives, outcomes, etc. for Aboriginal Cultural Heritage management;
- procedures for Aboriginal Cultural Heritage management, including:
  - site clearance (e.g. discovery and management of significant objects and sites, monitoring
  - arrangements, on-going discoveries, dealing with skeletal remains, etc.), and Keeping Place
  - arrangements;
  - requirements for site access;
  - confidentiality requirements for Aboriginal Cultural Heritage information;
  - processes for dispute resolution;
  - roles and responsibilities for the signatories;
  - reporting requirements;
  - cultural requirements for interaction between the signatories (e.g. protocols);
  - post-mining agreement;
  - arrangements for employment and business opportunities;
  - communication protocols;

– ownership of Aboriginal Cultural material and intellectual property; and
– procedures for a range of other associated administrative matters.

In relation to clearance/collection activities, NAC initially conducted three major activities involving the Traditional Owner group to facilitate mining operations on ML 50170. These clearance/collection activities were conducted under permits administrated by the previous CR Act. All subsequent clearance/collection activities on ML 50170 and more recently ML 50216 have been dealt with under the ACH Act. Clearance/collection activities are normally conducted on an as required basis to ensure a minimum buffer of 6 to 12 months clearance ahead of mining activities. Elsewhere on MDL 244, other minor clearance/collection activities may be conducted on an as required basis for activities, such as drilling. The Western Wakka Wakka People have been involved in clearance/collection activities since early to mid-2007. It is clear, therefore, that NAC has been working closely for many years with representatives of the Western Wakka Wakka People to ensure that measures for the identification and management of Aboriginal cultural heritage within the boundaries of MDL 244 that might be affected by activities carried out for the revised Project, are put in place and implemented.

All future clearance/collection activities on MLA 50232 will be dealt with under the ACH Act. Minor clearance/collection activities involving the Western Wakka Wakka People will occur on a periodic basis within the Study area. All personnel and contractors (construction and subsequent workings) will undergo a cultural heritage awareness program.

Furthermore, NAC's approach to complaints and dispute resolution and consultation activities is documented in **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.51.35 Issue 35

NAC acknowledges the previous work undertaken by the Lagoon Creek Landcare Group regarding contouring and soil conservation. NAC was engaged in consultation with the Lagoon Creek Landcare Group about these issues. NAC is aware of the *Soil Conservation Act 1986* and will ensure compliance with the requirements of this Act for the revised Project.

NAC believes the information provided in **Section 4.4.6**, **Section 4.5.2**, **Section 4.8.4**, **Section 4.8.5**, **Section 4.8.6**, **Section 4.8.7**, **Section 4.8.9** and **Section 4.10** of the draft EIS satisfactorily addresses the Private Submitter issues.

Furthermore, **Section 5.14.2** of the draft EIS states that current good practice erosion and sediment control measures will be provided for the revised Project as outlined in the *EPA Urban Stormwater Management Erosion and Sediment Control (2008)* and the *Institution of Engineers publication IECA Best Practice Erosion and Sediment Control Guidelines (2008)* to comply with the EPP (Water).

Appendix J.4 of the draft EIS states that specific environmental management conditions will be implemented to mitigate the impacts of the construction of the railway line crossing of Lagoon Creek.

As discussed in **Section 4.4** of **Appendix J.4** of the draft EIS an assessment of the integrity and effectiveness of erosion control measures will be undertaken at regular periods and following

significant rainfall events. Further rehabilitation and repair will be taken as necessary if erosion of reinstated areas is identified.

Section 5.11.3 of the draft EIS notes that "No change in the flood velocity or levels was observed for the 1 in 10 AEP within the revised Project site. This result is because the flood levees are located outside of the 1 in 10 AEP flood extent." Therefore the proposed flood levees are not expected to result in increased erosion of Lagoon Creek. In addition to this the offset from Lagoon Creek is likely to result in an improvement in the creeks riparian vegetation leading to a stabilisation of the creek banks and minimising the potential for future erosion.

Section 5.11.3 of the draft EIS states that downstream of the proposed railway crossing of Lagoon Creek there is a "decrease in flood level is accompanied by an increase in peak flow velocity immediately downstream of the railway drainage crossings in the order of 0.5 m/s for a 1 in 100 AEP flood event. This velocity increase increases the peak velocities in this area to 1.5 m/s. However, this increase is completely contained within land owned by the APC. The need for scour protection at the outlet of the culvert crossing will be assessed and incorporated in the revised Projects detailed design."

In addition, NAC acknowledges the importance of agricultural land, and as a result, the APC was formed several years ago to manage land acquired for the revised Project ahead and behind the active mine path. The APC also provides expertise in relation to NAC's rehabilitation activities, grazing management and weed and pest management.

NAC will continue to improve its rehabilitation performance and maximise the agricultural return from rehabilitated land and minimise erosion potential. NAC believes that these objectives will be achievable through scientific investigation and future advances in land management practices. The synergies of NAC's and APC's businesses demonstrate a commitment to achieve a long term sustainable outcome that provides social and economic benefits to the local community.

The APC's staff communicates regularly with a cross section of the local Acland farming community. As a result, additional opportunities are available for local neighbours to raise concerns about possible adverse impacts from NAC's mining activities affecting their farming ventures. Importantly, the APC's farming activities have not experienced any negative impacts from NAC's mining operations.

To enhance rehabilitation performance, NAC and the APC are now exploring:

- advanced topsoil management techniques involving:
  - delineation of better soil types; and
  - selective handling and placement of the soil profile;
- improved mine dump designs to minimise slope angles;
- the better selection of a range of pasture species; and
- the improved integration of these practices into the short and medium term mine plans.

Furthermore, NAC's approach to complaints and dispute resolution and consultation activities is documented in **Section 5.1.9** and **Section 5.1.10** of the AEIS.

5.3.52 Private Submitter 520

5.3.52.1 Issue 1

The potential groundwater impacts of the revised Project were presented in **Chapter 6** of the draft EIS. Subsequent to the release of the draft EIS, a revised groundwater model has been prepared. For further information regarding this matter refer to **Section 5.2.8** and **Appendix F, H and N** of the AEIS.

The groundwater monitoring program for the revised Project was presented in **Section 6.4.1** of the draft EIS. The proposed groundwater monitoring program included three monitoring bores in the Walloon Coal Measures to the west of the revised Project.

NAC will ensure its groundwater monitoring regime is adequate to identify possible effects to neighbouring groundwater users from the revised Project's operations (i.e., in relation to drawdown levels and water quality). NAC will review its groundwater monitoring regime on a regular basis in line with the progression of mining over the life of the revised Project.

Mitigation measures will be put into place should the effects of dewatering affect existing users. Examples of mitigation include installation of new pumps, deepening of existing bores, installation of a new bore at another location on the property, or provision of an alternative supply of water.

The Private Submitter recommended NAC enter into a Make Good agreement with potentially affected landholders. NAC will undertake a comprehensive bore characterisation program for third party groundwater users in the predicted impact area to identify the exact requirements for 'Make Good" measures for those affected users. NAC commit to entering into Make Good agreements with potentially affected landholders. The options for groundwater mitigation will be detailed in the Make Good agreements including, but not limited to, the installation of a new pump within the impacted bore, the lowering of the existing pump within the impacted bore, the deepening of the impacted bore or the construction of a new bore in the same aquifer at another location on the property.

5.3.52.2 Issue 2

The potential air quality impacts of the revised Project were presented in **Chapter 9** of the draft EIS.

As stated in **Section 9.4.5** of the draft EIS, livestock are expected to have a similar response to particulate emissions as humans. The revised Project is expected to comply with the ambient air quality objectives in the EPP (Air) provided NAC successfully implement a comprehensive air quality management strategy including a dust forecasting system, real time air quality monitoring and adaptive air quality management through the suspension or modification of mining activities to reduce dust emissions. The revised Project is not expected to have a significant impact on cattle on the property.

As discussed in **Section 9.4.5** of the draft EIS, deposited dust from mining operations that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption. NAC undertook water quality sampling of rainwater tanks around the Mine during 2007 and 2009. Results of water quality sampling from

rainwater tanks are presented in **Appendix G.6.5** of the draft EIS. The water quality sampling results for metals concentrations meet the recommended health and aesthetic guideline values in the ADWG. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC will undertake immediate actions to resolve these issues in consultation with affected residents if any future testing demonstrates non-compliance with the above guidelines. As standard practice NHG will investigate the matter, which generally includes sampling for water quality and sludge in the tank. In addition, NAC have developed a process for managing complaints from its operation, the process is presented in **Section 5.1.9** of the AEIS.

The Private Submitter recommended NAC implement the adaptive air quality management approach presented in the draft EIS. NAC have committed to implementing a comprehensive air quality management strategy to manage potential air quality impacts from the revised Project. The air quality management strategy includes a dust forecasting system, real time air quality monitoring and adaptive air quality management through the suspension or modification of mining activities to reduce dust emissions. Mining operations will be suspended or modified in response to the following triggers:

- potential dust risk predictions from the dust forecasting system;
- warning or exceedance alarms from the real time air quality monitoring system;
- observation(s) of significant dust generation during visual monitoring.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

5.3.52.3 Issue 3

NAC undertook mine noise investigation options to assist in the development of the project description of the revised Project. NAC investigated a number of operating scenarios with the aim to assist in developing a mining operation that demonstrates best practice and complies with noise objectives while achieving a feasible and viable mining operation. The potential noise impacts associated with these alternative operating scenarios presented in **Table 2-6** of the draft EIS. The implications for the proposed mining operations for the revised Project are noisier equipment will need to be attenuated and mining operations within the Manning Vale East pit will need to be varied or limited during the night time period to meet noise objectives.

The potential noise and vibration impacts of the revised Project were presented in **Chapter 11** of the draft EIS. Mining operations for the revised Project will assessed in **Chapter 11** of the draft EIS incorporates reduced night time operation in the Manning Vale East pit and the use of attenuated

mining equipment. The predicted noise levels from mining operation for the revised Project will meet the EPP (Noise) $L_{Aeq,adj,1\ hr}$ objective at all noise sensitive receptors over the life of the revised Project. The maximum operational noise level from the mining operation is predicted to meet the Planning for Noise Control's sleep disturbance criterion of L_{Amax} 52 dB(A) during the worst case temperature inversion condition at all noise sensitive receptors over the life of the revised Project.

The submitter recommended NAC implement the noise mitigation measures presented in **Section 11.8** of the draft EIS. NAC have committed to implementing these noise mitigation measures in the draft EIS.

5.3.52.4 Issue 4

Local roads such as Jondaryan Muldu Road effectively only provide access to the Mine, Muldu and Acland and the traffic volumes are considered to be minor.

The re-aligned Jondaryan-Muldu Road as shown in **Figure 13–3** of the draft EIS runs northeast to the west of the Manning Vale West resource area. This re-aligned road will link the revised Project site at Muldu to the Warrego Highway to enable product coal transportation to local customers in southeast Queensland and to allow daily light and heavy vehicle deliveries to the revised Project site during the construction and operation phase.

The existing Jondaryan-Muldu Road as shown in **Figure 13–3** of the draft EIS will be used as an internal haul road connecting the CHPP Precinct to the proposed TLF on MLA 50232. The decommissioning of the JRLF for the revised Project will result in a significant reduction in truck movements on Jondaryan-Muldu Road.

The potential traffic impacts of the revised Project do not require the widening of the Jondaryan-Muldu Road Diversion to accommodate farm machinery.

5.3.53 Private Submitter 520.2

5.3.53.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.53.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.53.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.53.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.54 Private Submitter 520.3

5.3.54.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.54.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.54.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.54.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.55 Private Submitter 520.4

5.3.55.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.55.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.55.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.55.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.56 Private Submitter 520.5

5.3.56.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.56.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.56.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.56.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.57 Private Submitter 520.6

5.3.57.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.57.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.57.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.57.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.58 Private Submitter 520.7

5.3.58.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.58.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.58.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.58.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.59 Private Submitter 520.8

5.3.59.1 Issue 1

Refer to **Section 5.3.52.1** of the AEIS.

5.3.59.2 Issue 2

Refer to **Section 5.3.52.2** of the AEIS.

5.3.59.3 Issue 3

Refer to **Section 5.3.52.3** of the AEIS.

5.3.59.4 Issue 4

Refer to **Section 5.3.52.4** of the AEIS.

5.3.60 Private Submitter 521

5.3.60.1 Issue 1

Chapter 6 of the draft EIS describes the groundwater resources that may be affected by the revised Project, how they might be affected, and the measures required for the mitigation of potential negative effects.

The methodology undertaken for the assessment of groundwater resources includes

- the formulation of a hydrogeological conceptual model describing the groundwater system to serve as the basis for a numerical model;
- the undertaking of numerical modelling to estimate likely effects of the revised Project on groundwater levels in a number of aquifers; and
- the assessment of potential effects and mitigation measures.

The draft EIS outlined that the Quaternary Alluvial aquifer is limited in spatial extent and within the revised Project site may only exist within the westernmost part in association with Lagoon Creek, although investigations have shown that Lagoon Creek is very likely disconnected from the regional groundwater system. The alluvial aquifer is known to form a significant groundwater resource outside of the revised Project site, especially in association with Oakey Creek (and its tributary Doctors Creek) south of the revised Project site.

Updated groundwater modelling, including a sensitivity and uncertainty analysis, has been undertaken for the revised Project since the draft EIS and is reported in **Appendix F** of the AEIS. The updated model has further refined the groundwater impact predictions presented in the draft EIS. The groundwater modelling undertaken in the draft EIS and the subsequent AEIS has included an assessment of likely impacts to the alluvial aquifers, including that associated with Oakey Creek. The Oakey Creek alluvium was specifically represented in the numerical model so that any potential impacts from the revised Project may be identified, i.e. no assumption was made as to limited impacts on this aquifer, rather the potential for impacts was specifically testing using a numerical computer model.

The updated groundwater modelling undertaken following the draft EIS, and reported in **Appendix F** of the AEIS, shows that groundwater drawdown associated with the revised Project is unlikely to have an impact on the surrounding alluvial aquifers as these aquifers are located significant distances away from the revised Project's proposed pits, and are poorly hydraulically connected to the Walloon Coal Measures aquifer which will be the primary aquifer intersected by the revised Project. None of the DNRM registered bores identified as being installed in any of the alluvial aquifers are predicted to be impacted by the revised Project.

Although not expected to occur, should impacts on the alluvial aquifer occur during operation of the revised Project, NAC has committed to Make Good measures for affected landholders as outlined in **Section 6.4.4** of the draft EIS and the revised Project's GMIMP, which is provided in **Appendix H** of the AEIS. As outlined in the GMIMP, and consistent with the Water Act, a complaints process for affected landholders will be set up, and NAC will follow this process to investigate and confirm groundwater impacts following a complaint. Following these investigations, if necessary reach agreement with affected landholders for Make Good measures.

5.3.60.2 Issue 2

The revised Project has a very minor disturbance footprint in the Doctors Creek Catchment. The Willeroo Pit mine plan disturbs 50 ha and intercepts a portion of runoff from Greenwood Hill (approx. 50 ha) in the Doctors Creek Catchment, which is less than 2 % of the catchment. This disturbance area will slightly reduce the catchment area of Doctors Creek and therefore have no increase to flood levels in Doctors Creek. The runoff to Doctors Creek has the potential to be slightly reduced due to the disturbance of the Willeroo Pit. This impact is expected to be minor as there is only a minor reduction in the catchment area.

As part of NAC's water management system, runoff from disturbed areas will be captured and treated with an amount available for reuse by the revised Project's mining activities. In line with current industry guidelines, NAC's water management system will include a controlled release system to manage rainfall events and minimise adverse impacts to the downstream receiving environment. The ephemeral nature of Lagoon Creek means that controlled releases will occur on a minimal basis over the life of the revised Project, and as a result, are not expected to have a significant impact on water quality, aquatic ecology and downstream water users.

A draft WRMP has been developed for the revised Project to ensure the protection of surrounding waterways (downstream receiving environment) and is provided in **Appendix J.4** of the draft EIS. As detailed in **Section 2.1.1** of **Appendix J.4** of the draft EIS, the following management strategies will be implemented by the revised Project to protect surface water quality and the downstream receiving environment.

- An operational separation distance of approximately 150 m will be maintained between the mining pit boundaries and Lagoon Creek, and will include a 50 m conservation zone immediately adjacent the creek where no mining activities will be permitted.
- Internal crossings of Lagoon Creek will be kept to an operational minimum and will include a single creek crossing of Lagoon Creek near the Willeroo resource area for access purposes (e.g. coal haulage).
- The conservation zone along Lagoon Creek will be defined within the mine lease area for protection purposes and will have limited access by stock (i.e. for removal of fire fuel loads only).
- Sediment dams, environmental dams, pit water storage and other water management structures (e.g. bunds and drains) will be used appropriately by the revised Project's WRMP.
- The revised Project's water management will be based on the separation and management of clean and dirty water catchments.

- As a minimum, stockpile pad areas will possess a compacted clay base to minimise infiltration and be armoured with a suitable material to maximise their longevity. Surface water runoff from these areas will be directed to a sediment dam / trap for treatment before release off site under discharge criteria outlined in the revised Project's EA.
- Water capture within the revised Project's clean areas will be diverted around operational areas and where practical, allowed to discharge off site as part of normal overland flow.
- Run off from disturbed areas within the revised Project site will be diverted to sediment dams for treatment and possible reuse as a supplementary supply for the revised Project's water requirement.
- Surface runoff from the revised Project's potentially contaminated areas, such as infrastructure areas, will receive additional levels of treatment (e.g. oil-water separators and bunding). Water captured by these devices will be preferentially reused on site, while captured oil will collected for recycling by a licensed contractor.
- Progressive rehabilitation will be undertaken as the revised Project's operational areas become available to reduce the total amount of disturbed areas.
- Fuel, dangerous goods hazardous chemicals and regulated wastes will be managed as outlined by current standards, guidelines and in compliance with statutory requirements.
- Refuelling locations and handling of fuels shall be under taken away from all waterways, including creeks and drainage paths, and will possess appropriate spill retention and capture devices.
- MAC's existing SOPs for fuel management, waste management, spills and emergency response will be expanded to incorporate the revised Project. Spill recovery and containment equipment will be available when working adjacent to sensitive drainage paths and within other areas, such as workshops.
- NAC will continue to commit to investigate all legitimate surface water complaints, and if a genuine problem is identified, conduct immediate remediation measures and establish standard operating procedures to minimise the possibility of a reoccurrence of the original issue.
- NAC's current water quality monitoring program will be expanded to incorporate the operational and decommissioning phases of the revised Project. The program is designed to ensure the WRMP is effective, to demonstrate compliance with Mine's strict discharge limits, and to ensure the downstream water quality (physico-chemical parameters, at a minimum) is not being adversely impacted. The WRMP will include the following actions.
- Water quality will be measured upstream and downstream of the revised Project site. Basic water quality indicators (i.e. Salinity, pH, DO, EC, temperature) will continue to be monitored on a monthly basis, or when water is present, and heavy metals, nutrients, anions and cations will be monitored twice annually at sensitive sites.
- During any release event the receiving water will be monitored upstream (50 m to 100 m upstream of the release point) and downstream (200 m downstream of the release point) locations. Water quality variables will include basic water quality indicators, suspended solids, heavy metals, nutrients, anions and cations.

- Progressive rehabilitation of areas impacted by operational activities will be undertaken in order to reduce the total amount of expose soil.
- Safe and environmentally responsible management of fuels, dangerous goods, hazardous chemicals and work shop waste will be maintained over the life of the revised Project.

As per the management intent under the EPP Water, it is the intention of the NAC to where possible to improve the environmental values of Lagoon Creek catchment through the preservation of the Lagoon Creek channel and riparian zone. Through implementing the above management strategies for surface water management, the risk of adverse impacts to the water quality of Lagoon Creek, Oakey Creek and the Condamine River downstream of the revised Project is minimal.

The water balance modelling is based on conservative estimates for 500 stochastic rainfall replicates. The results predict that the Project's water management infrastructure combined with the Mine infrastructure is able to adequately manage mine water to minimise risks to operations and adverse impacts to the downstream environment.

5.3.60.3 Issue 3

Refer to **Section 5.3.60.1**.

5.3.61 Private Submitter 525

5.3.61.1 Issue 1

Kudo-Silverleigh Road is located approximately 13 km east of the revised Project site. The traffic movements generated during the peak construction and operation phase for the revised Project are not anticipated to traverse Kudo-Silverleigh Road.

All NAC staff are advised to access the revised Project via Oakey-Cooyar Road and the northern access road as the key access for light vehicles to the mine site is via the northern access road. The revised Project and associated road closures are unlikely to result in an increase in traffic along Kudo-Silverleigh Road. There is no requirement to upgrade the road to a sealed road section.

NAC have detailed the complaints and dispute resolution processes and consultation activities for the revised Project in **Sections 5.1.9** and **5.1.10** of the AEIS.

5.3.62 Private Submitter 526

5.3.62.1 Issue 1

Refer to **Section 5.3.61.1** of the AEIS.

5.3.63 Private Submitter 527

5.3.63.1 Issue 1

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence.

If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

For additional information regarding this matter, please refer to **Section 5.1.10** of the AEIS.

5.3.64 Private Submitter 538

5.3.64.1 Issue 1

Section 5.11.3 of the draft EIS details the flood impact assessment at Jondaryan. As part of the impact assessment changes to the duration of flooding and flood warning were examined for Jondaryan. **Figure 5-19,** presented in the draft EIS, illustrates the design flood hydrograph exported from the TUFLOW flood model under existing and developed conditions. **Figure 5-1** illustrates that there is actually a very minor increase in the time between the onset of rainfall and the flood peak as a result of the revised Project. This result is due to the attenuation of the flood peak through the railway crossings. It is therefore considered that the revised Project will not have significant impacts on the flood warning in Jondaryan.

The flood modelling evaluation discussed is based only on conceptual design parameters. The levee alignment, freeboard, civil and geotechnical design will be revised through the detailed design phase of the revised Project.

The revised Project is not expected to have a significant impact on the existing flood regime. Impacts to flooding as a result of the proposed flood protection levee and railway crossing are largely located on land owned by the APC. Furthermore, the analysis indicates that there would not be additional flooding impacts at Jondaryan as a result of the revised Project.

Flood protection for the revised Project's resource areas will be provided through two flood levees designed to provide protection from a PMF flood event, which is well in excess of the current legislative requirements. In addition, NAC has committed to ensuring the revised Project's final landform is outside the existing PMF flood extent, and as a result, there are no flooding impacts on the key aspects of the proposed final landform (i.e. the depressed and elevated landforms).

5.3.65 Private Submitter 547

5.3.65.1 Issue 1

While NAC acknowledges the Submitter's concerns, to date monitoring results have confirmed compliance with recognised air quality standards for dust deposition nuisance and the protection of respiratory health from airborne particles.

The environment surrounding Jondaryan is subject to influences from a number of dust nuisance and airborne particulate sources that include:

- the extensive vehicular movements along the adjacent Warrego Highway;
- rail traffic along the adjacent Western Railway line;
- operation of the nearby Jondaryan Landfill;
- surrounding rural activities;
- traffic movements over local unsealed roads and exposed road verges; and
- the operation of the JRLF.

NAC understands that these sources are exacerbated by weather patterns, particularly prevailing rainfall, temperature and wind conditions. Road and rail traffic conditions are also compounded by the volume and type of vehicular movements (e.g. heavy vehicles) and the range and status of load types.

The potential air quality impacts of the revised Project on Jondaryan and Oakey was presented in **Chapter 9** of the draft EIS. Mining activities associated with the revised Project are located at least 9 km to the northeast of Jondaryan and 10 km northwest of Oakey. The maximum predicted PM_{10} concentrations at Oakey and Jondaryan (presented in **Figure 9-11** for 2019 operations, **Figure 9-18** of the draft EIS for 2023 operations, and **Figure 9-26** for 2029 operations) are below the air quality objectives in the EPP (Air). Based on the predicted air quality associated with operations for the revised Project, there is no requirement for additional air quality in Jondaryan and Oakey.

Deposited dust from material handling operations (including mining and coal handling facilities) that is captured in rainwater tanks has the potential to affect rainwater quality through a potential increase in levels of suspended solids or concentrations of metals. The ADWG (NHMRC & NRMMC, 2011) provides water quality levels considered safe for human consumption.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS. Water quality in rainwater tanks is considered unlikely to exceed the water quality levels in the ADWG as a result of the revised Project.

NAC undertook water quality sampling of rainwater tanks and from taps at five residences in Jondaryan from 2011 to 2012. Results of water quality sampling from rainwater tanks are presented in **Appendix O** of the AEIS. E. coli was detected above the limit of reporting at four properties, exceeding the ADWG. Water quality sampling results for metals concentrations generally met the recommended health and aesthetic guideline values in the ADWG. Water quality samples recorded

concentrations of lead and nickel above the health guideline values in the ADWG at three and one property respectively. The percentage of coal in sediments of rainwater tanks varied from 1% to 25% based on analysis by SEM. The source of the metals may be the result of degradation of pipes/tank structures or other localised particulate sources.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

NAC propose to undertake water quality sampling at selected number of rainwater tanks in Jondaryan following the decommissioning of the JRLF in 2018 for the revised Project, subject to the relevant approvals being obtained by 2015. If this water quality testing does not meet the water quality objectives in the ADWG, NAC commit to engaging with the local community with the objective of identifying key strategies that can be implemented to improve water quality in rainwater tanks.

5.3.65.2 Issue 2

As the revised Project relates to the expansion of an existing operation, much of the workforce will maintain their employment at the Mine and will not experience a change to their housing and accommodation needs. NAC will seek to source local employees for the revised Project wherever possible. The use of local people for employment is not expected to put an additional burden on the region's accommodation resources. It is expected that a small number of new employees are likely to move to the area for employment at the mine, and are likely to reside in Toowoomba, Oakey or other nearby centres.

In addition, housing availability and affordability will be discussed as part of the CRG meetings if concerns emerge to determine if additional local strategies are needed. For additional information regarding this matter, please refer to **Section 5.1.10** and **Appendix E** of the AEIS.

For the purpose of responding to the Submitters issues, NAC will assume that 'Coal Pump' is referring to the JRLF. NAC currently undertakes air quality monitoring for the existing operations of the JRLF. The JRLF is a coal loading facility located approximately 1 km east of Jondaryan. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at 5 locations in Jondaryan and near the JRLF.

NAC propose to decommission the JRLF with the revised Project. The decommissioning of the JRLF will commence in 2018 and is expected to be completed in 2019, subject to the relevant approvals being obtained in 2015. The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. Air quality monitoring will continue in Jondaryan until the JRLF is decommissioned. The on-site TEOM will remain and be used for post decommissioning monitoring purposes. **Section 3.11.1** of the draft EIS details and illustrates the JRLF Decommissioning Management Strategy. The existing JRLF site will be returned to its original land use, namely grazing.

NAC proposes to construct a TLF as part of the revised Project. The TLF will replace the JRLF, which during April 2013 was upgraded to include a veneering and profiling system. The TLF's design expects to reduce potential coal dust emissions further, for example, through the use of a hopper feed to directly create the correct profile and prevent overloading. These actions were key long term recommendations from a recent report on the review of dust from coal trains in Queensland, presented to the Senate Standing Committee on Community Affairs Inquiry "The impacts on health of air quality in Australia", during 2013 (QRC 2013).

The revised Project will result in up to an additional 27 weekly rail movements along the SWS to QBH. Additional rail movements from the revised Project are unlikely to increase fugitive coal dust emissions along the rail corridor due to the implementation of the CDMP and the TLF. The revised Project is not expected to result in exceedances of the ambient air quality objectives in the EPP (Air). Importantly, ongoing rail coal dust monitoring of the SWS is planned by the DSITIA (DSITIA 2013). Further discussions on this matter are provided in **Chapter 9**, **Section 9.4.5** of the draft EIS.

5.3.66 Private Submitter 548 (1)

5.3.66.1 Issue 1

NAC have noted the Private Submitters concerns associated with noise impacts associated with the transportation of product coal on the rail line in Oakey. NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

NAC, in coordination with Aurizon, has implemented the operational changes to reduce potential for noise impacts from trains on Jondaryan residents, including shorter siren blasts as trains are approaching level crossings. There may be opportunity to implement similar operation changes for train movements at Oakey.

5.3.67 Private Submitter 548 (2)

5.3.67.1 Issue 1

NAC have noted the Private Submitters concerns associated with dust impacts associated with the transportation of product coal on the rail line in Oakey. NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

The draft EIS examined the air quality impacts associated with coal dust from transport in **Sections 9.4.5** and **20.7** of the draft EIS. DSITIA (2013) undertook air quality monitoring was conducted at six locations along the Western and Metropolitan rail systems used to transport coal to the Port of Brisbane. The Queensland Department of Health has concluded that, for people living along the rail corridor, the dust concentrations, resulting from all particle sources, measured during the investigation are unlikely to result in any additional adverse health effects (DSITIA, 2013).

NAC propose to minimise potential for air quality impacts along the rail corridor through the implementation of the South West System CDMP (SWS User Group 2013). This plan has been prepared to assist in mitigation and management of coal dust on the South West System rail corridor. The measures being undertaken by to minimise and manage coal dust emissions include:

- Moisture content management;
- Improved loading practices;
- Load profiling of coal surface;
- Veneering; and
- Ongoing dust monitoring.

5.3.68 Private Submitter 550

5.3.68.1 Issue 1

NAC have undertaken additional intersection turning movement counts on Wednesday, 29 May 2014 at Davidson Street and Bridge Street at-grade level crossing in Oakey. The survey data obtained for the existing and proposed level crossings will be used for an ALCAM assessment. The accredited ALCAM report from QR will outline the findings and proposed mitigation measures of the level crossing assessment for at-grade level crossing in Oakey.

NAC will undertake the appropriate discussions with QR, DTMR and TRC to ensure the appropriate mitigation measures are implemented based on the proposed design considerations outlined within the ALCAM assessment that would be undertaken by QR.

NAC have noted the Private Submitters concerns associated with dust and noise impacts associated with the transportation of product coal on the rail line in Oakey. NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

In relation to dust impacts, during September 2012 the Queensland government undertook air quality monitoring along the South West Rail System (http://www.ehp.qld.gov.au/air/pdf/tennyson-dust-report.pdf). Further comprehensive monitoring was undertaken by the Queensland government during March and April 2013 and then again during May 2013 at six locations along the South West Rail System , which included Oakey, Willowburn (Toowoomba), Dinmore, Tennyson, Fairfield and Coorparoo. As part of the same study, one background location (Chelmer) on a section of the Metropolitan rail system not used by coal trains was also included. The two-stage monitoring program

during 2013 was to assess air quality without and then with veneering of coal in rail wagons from the JRLF.

The Queensland government monitoring programs independently demonstrated that ambient PM_{10} and $PM_{2.5}$ concentrations did not exceed the EPP (Air) 24-hour average air quality objectives of 50 µg/m^3 and 25 µg/m^3 respectively on any day. The final reports for this targeted air quality monitoring are provided at https://www.ehp.qld.gov.au/management/coal-dust/monitoring.html.

Furthermore, subsequent continuous real-time air quality monitoring set-up by the Queensland government along the South West Rail System continues to show that no significant coal dust issues currently exist in relation to coal transport. This data may be viewed at https://www.ehp.qld.gov.au/air/data/search.php.

NAC, in coordination with Aurizon, has implemented operational changes to reduce potential for noise impacts from trains on Jondaryan residents, including shorter siren blasts as trains are approaching level crossings. There may be opportunity to implement similar operation changes for train movements at Oakey.

5.3.69 Private Submitter 558

5.3.69.1 Issue 1

NAC have noted the submitters concerns associated with dust and noise impacts associated with the transportation of product coal on the rail line in Oakey.

NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

NAC propose to minimise potential for air quality impacts along the rail corridor through the implementation of the South West System CDMP (SWS User Group 2013). This plan has been prepared to assist in mitigation and management of coal dust on the South West System rail corridor. The measures being undertaken by to minimise and manage coal dust emissions include:

- Moisture content management;
- Improved loading practices;
- Load profiling of coal surface;
- Veneering; and
- Ongoing dust monitoring.

NAC, in coordination with Aurizon, has implemented operational changes to reduce potential for noise impacts from trains on Jondaryan residents, including shorter siren blasts as trains are approaching level crossings. There may be opportunity to implement similar operation changes for train movements at Oakey.

5.3.69.2 Issue 2

NAC have noted the submitters concerns associated with air quality impacts associated with the transportation of product coal on the rail line in Oakey. NAC is not responsible for the transportation of coal on the rail network. The transportation of coal by rail will be undertaken by freight service operator Aurizon on the rail network maintained by QR.

The draft EIS examined the air quality impacts associated with coal dust from transport in **Sections 9.4.5** and **20.7** of the draft EIS. DSITIA (2013) undertook air quality monitoring was conducted at six locations along the Western and Metropolitan rail systems used to transport coal to the Port of Brisbane. The Queensland Department of Health has concluded that, for people living along the rail corridor, the dust concentrations, resulting from all particle sources, measured during the investigation are unlikely to result in any additional adverse health effects (DSITIA, 2013). The quantities of exhaust emissions from locomotives are relatively low and are not expected to not to exceed the ambient air quality goals.

NAC propose to minimise potential for air quality impacts along the rail corridor through the implementation of the South West System CDMP (SWS User Group 2013). This plan has been prepared to assist in mitigation and management of coal dust on the South West System rail corridor. The measures being undertaken by to minimise and manage coal dust emissions include:

- Moisture content management;
- Improved loading practices;
- Load profiling of coal surface;
- Veneering; and
- Ongoing dust monitoring.

5.3.70 Private Submitter 564

5.3.70.1 Issue 1

Consultation for the revised Project identified concerns surrounding the proposed road closures for the revised Project. The proposed road closures are necessary to exclude public traffic from the revised Project site for safety reasons.

The potential impacts on landholders through additional travel distances due to the proposed road closures are discussed **Sections 5.1.6.1, 5.1.6.2** and **5.1.6.3** of the AEIS. Landholders on Jondaryan-Muldu Road would have to travel no additional distance to access Jondaryan, Oakey or the Warrego Highway.

5.3.70.2 Issue 2

The potential for coal spill on public roads will be significantly reduced as a result of the revised Project. For current operations at the Mine, coal is transported 16 km along Jondaryan-Muldu Road from the Mine to the JRLF by A-B Triple and A-B Quadruple side-tipper trucks. With the

decommissioning of the JRLF and construction of the TLF on MLA 50232, the existing Jondaryan-Muldu Road will be closed and used as an internal haul road for the revised Project.

A total of up to 200,000 t of product coal will be transported by road from the revised Project site to domestic customers. All trucks owned by domestic customers leaving the mine site have their loads covered.

Once the project execution contracts have been awarded, NAC will ensure that the transportation of coal by road from the revised Project site complies with the requirements outlined within *Load Restrain Guide, Second Edition* (NTC & RTA, 2004). In the interim, NAC will continue to consult TMR in regards to minimising the impacts of coal spill on public roads.

5.3.71 Private Submitter 565

5.3.71.1 Issue 1

For information regarding this matter, please refer to **Section 5.3.70.2** of the AEIS.

5.3.72 Private Submitter 568

5.3.72.1 Issue 1

NAC acknowledges the importance of the Private Submitter's business activities. The draft EIS aims to ensure that all impacts, direct and indirect, particularly environmental, social and economic impacts are fully examined and addressed. NAC is committed to the resolution of legitimate problems caused by its mining operations and in all cases will work towards identifying practical and agreeable solutions. The following sections provide clarification around specific issues raised by the Private Submitter.

Section 5.1.9 of the AEIS provides more detail on NAC's mechanisms for dealing with complaints by landholders. **Section 5.1.10** provides more detail on how community members will be engaged and impacts mitigated and managed during the life of the revised Project.

5.3.72.2 Issue 2

NAC understands that noise and dust sources are exacerbated by weather patterns, particularly prevailing rainfall, temperature and wind conditions.

For the Mine, NAC over the life of operations has undertaken an extensive range of management actions to address noise, including more recently the development of a TARP that is based on real-time noise monitoring and adaptive management actions which involves the immediate cessation, reduction or relocation of identified noisier mining activities. As standard practice, noisier operations are carefully considered during the mine planning stage (e.g. the location of haul roads and the scheduling of noisier activities to either in-pit at night or daytimes only). NAC has provided its near neighbours with an afterhours contact telephone number to allow Mine personnel to respond to noise issues immediately as they are occurring (i.e. rather than retrospectively as a complaint the next day). This system was implemented early in the Mine's life and has worked well for those neighbours

who have used it. This system also functions well for other operational issues that may cause sleep disturbance (e.g. temporary lighting).

NAC has demonstrated that it is committed to work with its neighbours to resolve noise and other issues even when the Mine is proven compliant. This 'beyond compliance' approach to noise management was adopted by NAC in good faith to help address an acknowledged difficult and sensitive issue. As part of this process, NAC has undertaken various noise amelioration actions on-site, sometimes at considerable cost to the company (e.g. the changing of all reversing beepers on mobile equipment).

For the revised Project, NAC has undertaken extensive conservative noise modelling to understand the potential for noise impacts over the life of the revised Project and has developed a Noise and Vibration Management Plan based on real-time monitoring and adaptive management. Further details around noise assessment and the proposed management of noise can be read in **Chapter 11** and **Appendix J.11** of the draft EIS. NAC in consultation with the DEHP has proposed more stringent operational noise conditions, particularly for night-time operations, and has put forward an operational limit for single impulsive noise events L_{Amax}. Therefore, the revised Project will be required to operate under considerably stricter noise limits, and as a consequence, NAC will implement a range of leading noise management practices to achieve those limits. Importantly, NAC is committed to delivering a comprehensive noise and vibration management strategy that will comply with the new statutory noise limits and prevent adverse noise and vibration impacts at its neighbours' properties.

Section 11.7.6 of the draft EIS provides an assessment of the blasting noise and vibration impacts. The distance between nearest sensitive receptors and overburden blasting for the revised Project is expected to be greater than 1,000 m. Due to the distance between the mining areas and the sensitive receptors being greater than 100 m, the vibration impact from other mining activities at the nearest sensitive receptors will be minimal. Blasting for the revised Project's operations will occur approximately eight times per week during daylight hours.

The airblast overpressure and vibration impacts from blasting can be managed to achieve acceptable levels at the sensitive receptors surrounding the revised Project. Blasting will only be undertaken during daylight hours and will not generally be carried out on Sundays or public holidays.

For the management of airblast overpressure and vibration, the following measures will be adopted for the revised Project.

- Field data will be used to best determine blast conditions and the type of stemming required for the area.
- In the event of a blast issue, the maximum instantaneous charge of subsequent blasts will be reduced using delays, reduction of hole diameter, etc. (i.e. until the blast issue is resolved).
- In the event of a blast issue, the burden and spacing of subsequent blasts will be changed by altering the drilling pattern and/or delay layout, or altering the hole inclination (i.e. until the blast issue is resolved).
- The stemming depth and type will be adequate for each blast event.
- Blast events will only be conducted during favourable weather conditions.

- The monitoring of blasts will continue at the nearest sensitive receptors based on the interpretation of pre-blast weather data.
- The practice of advising near neighbours will continue in advance of each blast. All new near neighbours surrounding the Project site will be proactively invited to join the blast notification contact list.
- A qualified professional with suitable experience will be responsible for the Project's blast management.
- All blast complaints will be investigated in a timely manner to determine the extent of the issue. Where appropriate, blast monitoring will be conducted at the affected residence, and as required, blast mitigation solutions will be investigated and implemented by agreement.

5.3.72.3 Issue 3

NAC will expand its proactive blast monitoring regime for the revised Project, which is normally conducted at the closest sensitive receptors downwind of the blast site. This methodology is based on operational experience and ensures air blast overpressure is correctly recorded as the most sensitive blasting issue.

Blasting conducted for the revised Project possesses the potential to generate oxides of nitrogen (NO_X) fumes dependant on individual shot characteristics. The air quality objective for NO_2 in the EPP (Air) are not expected to exceeded based on air quality monitoring of blasting at two mines in the Hunter Valley, NSW (Attalla *et al*., 2007).

The following dust control measures for drilling and blasting will be implemented for the revised Project:

- Dust curtains will be installed on drill rigs (i.e. under the drill deck with fabric filters to collect dust).
- Water injector will be used on drill rigs to minimise dust emission.
- Local residents (neighbours) will be advised of blasting events (date and time).
- Blasting operations will be modified during adverse weather conditions (e.g. dust storms, gale force winds and storm conditions).
- Blasts will occur during daytime hours only and not on weekends or public holidays.
- Gravel/basalt stemming will be used in blast holes.
- A pre-blast environmental checklist will be used. Key actions will include::
  - Review of the current weather forecast.
  - Establishment of 300 m and 500 m minimum machine and personnel exclusion zones, respectively.
  - Establishment of a Fume Management Zone based on expected meteorological conditions.
  - Neighbours on blast contact list will be notified of whether their residence is in the fume management zone.
  - A portable weather station will be set up to monitor field meteorological conditions.

- Blast will only be conducted when meteorological conditions are favourable.
- Relevant blast data will be captured, recorded, and as required reviewed.

As described in **Section 9.5.3** of the draft EIS, NAC proposes to implement a dust forecasting system to provide daily predictions of upcoming meteorological conditions and potential risk of air quality impacts from mining operations from the revised Project.

The dust forecasting system predicts potential risk of air quality impacts using dispersion modelling tools for up to two days in advance. The dust forecasts will be updated on a daily basis, generating a daily automated email of forecast meteorological conditions and dust risk.

Predictions from the dust forecasting system will allow operators to identify locations and times of potentially increased risk, and to facilitate appropriate planning to minimise or avoid potential impacts. A proposed hierarchy of adaptive management measures for key sources of dust from mining operations is outlined in **Section 9.5.5** of the draft EIS. In addition, a series of adaptive management measures and are included in the Air Quality Management Plan for the revised Project (**Appendix J.10** of the draft EIS).

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project.

5.3.72.4 Issue 4

The Mine has secured a water supply allocation of up to 5,650 ML/year. The major source of this allocation is via a long term contract to the year 2055 with the TRC that allows the purchase of up to 5,500 ML per annum of Class A+ recycled water from the WWRF. The duration of this supply contract is well beyond the projected life of mine. This water supply option represents a beneficial use of a wastewater product and has eliminated the revised Project's reliance on deep sourced groundwater from the Great Artesian Basin. **Chapter 3** outlines the details with regard to the TRC's WWRF agreement with the NHG.

The process water dams are used to supply process water to the CHPPs. The process water dams also aid in the management and segregation of clean and dirty water at the revised Project site. The process water dams generally do not have a local catchment and will only receive clean water inflows from the WWRF pipeline, recycled water from the mine water management system, direct rainfall and recycled brine water in small periodic quantities from the Oakey Reverse Osmosis Water Treatment Plant. Water that has been settled in the sediment dams and tailings storage facilities can be transferred to the process water dams to maximise sediment dam capacity providing optimal storage volume for flood events.

The new mining areas of Manning Vale East and Manning Vale West and Willeroo are located within the upper sections of the Lagoon Creek catchment. As a result, the area of undisturbed or disturbed catchment upstream of the pits is minimal. The majority of water that collects on the site accumulates in the pits as a result of direct rainfall runoff and groundwater infiltration from in situ strata (high wall) and backfilled areas (low wall). Water that collects in the mine pits will be captured in small temporary

sumps where it is used for dust suppression activities. During high rainfall periods, excess pit water will be pumped to sedimentation dams for eventual use by the CHPP Precinct. Three additional environment dams will be constructed for the revised Project's Manning Vale East, Manning Vale West and Willeroo resource areas. These dams will be constructed in close proximity and on the downstream edge of the pit to minimise pumping costs.

Rainfall runoff from the two out of pit spoil dumps at the Manning Vale West and Willeroo mine pits will be captured in sediment dams with any overflows diverted to the environment dams via diversion bunds. The placement of these bunds will be determined through the detailed mine planning and will change as the mine pit progresses. As the disturbed area is in the upper parts of the catchment and the out of pit dump areas are relatively small, the environment dams will manage a relatively small catchment area. As a result inflows to the environment dams can be largely controlled through the pump rates from the adjacent pit.

A controlled release system is proposed from the new Environment Dams. The purpose of the controlled releases is to allow relatively clean water from a significant rainfall event to be removed from the site, rather than collected in the pits and increase in salinity through evaporation. This controlled release system will also assist in minimising the revised Project's impacts to flows in Lagoon Creek. The controlled release system will be based on specific water quality targets.

Mine impacted water from the CHPP will be recycled to use in the process through the tailings and spoil facilities as presented in **Section 3.9.2** of the draft EIS and there will not be uncontrolled discharges of mine impacted water from these storages to the environment. Water balance modelling on the mine water management system suggests that controlled discharges to the environment will be limited in frequency and duration, as presented in **Section 5.13.4** of the draft EIS. Engineering controls within the Mine water management system will provide mitigation to preclude adverse effects on terrestrial and aquatic freshwater flora and fauna. This will be achieved through a controlled release strategy whereby the concentration of salt that is released to the rivers will not exceed the assimilative capacity of the receiving environment.

5.3.72.5 Issue 5

Access to Acland, Goombungee, Oakey, Crows Nest and Murphy's Creek will be maintained at all times during the revised Project's construction and operation phase. Based on the travel route assumption outlined within **Section 5.1.6** of the AEIS, the additional travel distances for the submitter to access Acland, Goombungee, Oakey, Murphy's Creek and Crows Nest are outlined in **Table 5.3-D**. The Private Submitter will incur an additional 30 km in travel distance to Acland and an additional 5 km travel distance to Crows Nest and Goombungee, from the Private Submitter's property due to the proposed road closures for the revised Project.

Table 5.3-D Additional distance matrix for Submitter 568 to key townships

Cluster groups/ locations	Approximate additional travel distances (km) [1 2 3]				
	Acland	Murphy's Creek	Crows Nest	Goombungee	Oakey
Submitter 568 (1158 Jondaryan-Muldu Road)	30	0	5	5	0

[1] Distances calculation were undertaken using Google maps travel distance

[2] The origin and destination points for the existing proposed travel are the same. The distances above are calculated from the difference in the existing and proposed travel routes.

[3] Rounded to the nearest whole number

Section 5.1.6 of the AEIS outlines how impacts of road closures and diversions will be managed and mitigated.

5.3.72.6 Issue 6

Due to the rural landscape within and surrounding the revised Project site, night lighting is expected to create a glow in the night sky that will be visible from the surrounding region and nearby residences. As an open-cut mine operating 24 hr/day, substantial night lighting will be required for safe operations. Lighting will be needed to illuminate mine face work as well as associated mining infrastructure. Permanent lighting around the CHPP precinct, MHF, TLF and mining areas will contribute to a general glow in the night sky, as well as in-pit machinery, mobile equipment and mining vehicles. However, as the Mine already provides some luminance in the night sky, it is unlikely that the revised Project will substantially increase the existing visual impact of night time glow. The CHPP will be upgraded at its current location and as such, only slight changes in night lighting would be experienced. Furthermore, the light emitted from the new TLF area is expected to be reduced by comparison to the current JRLF. Lighting on the revised Project site will be oriented inwards and screened from the outside where possible. **Section 5.3.34.1** details the community complaints handling process as it relates to night lighting.

It is proposed that three out-of-pit spoil dumps will be established adjacent each of the mining pits. The locations of the out-of-pit spoil dumps are as follows:

- adjacent to the northern boundary of the Manning Vale West pit;
- adjacent to the northern boundary of the Manning Vale East pit within the existing ML 50216; and
- adjacent to the northern-most boundary of the Willeroo pit, mostly located within the existing ML 50216.

The locations of these out-of-pit spoil dumps are shown in **Figure 3-16**, (**Chapter 3** of the draft EIS). The proposed out-of-pit spoil dumps are similar in size. Although, the Manning Vale West out-of-pit spoil dump would be slightly larger.

During mining operations, out-of-pit dumping will be kept to a practical minimum and generally only carried out when a box-cut is being developed, or ITSFs have displaced some of the in-pit dumping volume. Out-of-pit spoil dumps will be re-contoured and rehabilitated to elevated landforms following mining operations to reduce visible impacts and support a sustainable grazing regime consistent with the existing landscape character. **Chapter 4** of the draft EIS provides detailed information regarding the management and location of the out-of-pit spoil dumps/elevated landforms.

The visual amenity assessment is provided in **Chapter 15** of the draft EIS. It provides a description of the existing landscape character and visual amenity of the revised Project. It also identifies potential visual impacts of the revised Project and mitigation measures proposed to avoid or minimise adverse impacts.

Section 15.4.2 of the draft EIS provides a viewshed analysis conducted from various vantage points surrounding the revised Project site. The conceptual graphic representation of the visual impacts on key locations is provided through the use of photographic montages. The montages provide a visual representation from the viewing location prior to construction (the existing landscape) and at the end of mining operations without mitigation strategies. **Figure 15-6** and **Figure 15-7** (**Chapter 15** of the draft EIS) provide a 3D visualisation of the revised Project at the time of greatest impact experienced at the viewpoints and when the revised Project has been rehabilitated.

NAC undertook tree planting activities during 2005. New tree-screening activities will occur:

- along the western side of Oakey-Cooyar Road to minimise expansive views of the revised Project site to the east;
- along the western side of the re-aligned section of Jondaryan-Muldu Road to limit views of mining vehicle traffic;
- along both the eastern and western sides of Jondaryan-Muldu Road south-west of the revised Project site to limit views of the rail spur and mining vehicle traffic; and
- on the eastern and western edges of Acland to preserve the character of the town.

Other areas of tree-screening activities surrounding the revised Project site may be appropriate, such as around individual residential homesteads and within Acland. This would be identified through consultation with individual landholders impacted by the revised Project.

Mitigation measures that will be undertaken to reduce the likely visibility or visual impact from key locations surrounding the revised Project site are further detailed in **Section 15.5** of the draft EIS.

Recent updated groundwater modelling has been completed including long term post-mining modelling. Permanent lakes are predicted to form in all three depressed landforms (refer to **Section 5.2.9.13** of the AEIS).

With consideration to the above post-mine land suitability (grazing) has been amended for the depressed landforms based on the further review of slope information and the updated groundwater model. Depressed landforms are considered to be Class 5 (grazing) land suitability as the landforms will become lakes. For further information regarding this matter please refer to **Section 5.2.9.12** of the AEIS.

5.3.73 Private Submitter 579

5.3.73.1 Issue 1

The revised Project is not predicted to exceed the air quality objectives in the EPP (Air) at Jondaryan (refer to **Chapter 9** of the draft EIS).

The revised Project will not result in increased operations at the JRLF. As stated in **Section 3.6.3** of the draft EIS, the increase of capacity to 7.5 Mtpa will not occur until the construction of associated infrastructure required to produce and transport coal off-site at a production rate up to 7.5 Mtpa (i.e. after the construction of the TLF on MLA 50232). The decommissioning of the JRLF is expected to reduce the potential for dust impacts in Jondaryan. For further information regarding this matter refer to **Section 5.1.4** of the AEIS.

The following dust mitigation measures are implemented at the JRLF to reduce the potential risk of air quality impacts:

- High volume roadways, which convey 75% of site traffic, have been sealed
- All trucks leaving the facility are covered and must exit over a 'rattle grid';
- Speed restrictions apply to vehicle movements on site;
- A larger water truck has been commissioned for use on site to improve the watering regime;
- Unsealed road surfaces are graded regularly to reduce silt content of the surface;
- Side tipper trucks are used because they possess lower emissions than other types of trucks;
- Sealed roads are swept as required to reduce soiling due to track-out; and
- Additional dust management measures (e.g. water truck to spray site roads, dust sweeper on sealed roads) are implemented when air quality monitoring records exceedance of the dust trigger level.

Covering the coal stockpiles at the JRLF, as recommended in the submission, is not a cost-effective solution to reduce dust emissions as the JRLF will be closed within 24 months from obtaining grant of the ML and all other relevant approvals for the revised Project, including the NHG's final investment decision. Covers on the stockpiles would result in operational challenges because of the dozer activities at the JRLF including shaping the stockpiles and loading coal trains.

NAC undertakes air quality monitoring to determine if the JRLF is generating potential air quality impacts on sensitive receptors. The air quality monitoring program for the JRLF includes:

- Two real-time TSP monitoring stations – one at the JRLF and one within Jondaryan;
- Quarterly PM_{10} monitoring at the corner of Lagoon and Earl Streets in Jondaryan; and
- Dust deposition gauges at five locations in Jondaryan and near the JRLF.

Historical environmental monitoring results for dust deposition show that JRLF identified no elevated results in the period January 2012 to December 2013 as a result of the JRLF activities. Considering

field observations, surrounding land use, laboratory compositional analysis, and meteorological observations, JRLF was not considered the major contributing factor in any of the results.

Historical environmental monitoring results for TSP show that JRLF identified one event of an elevated result in the period January 2012 to December 2013. The elevated result was due to unregulated temperature in the TEOM unit and is not considered accurate.

NAC currently prepares monthly environmental monitoring reports for Jondaryan and makes these available to the public through the NHG website. NAC are also required submit an annual report to the DEHP on the environmental compliance of the JRLF with the air quality conditions in the Development Assessment. NAC will continue to prepare the monthly environmental monitoring reports and make these available to the public until the JRLF is decommissioned.

5.3.74 Private Submitter 580

5.3.74.1 Issue 1

NAC's operations are required to ensure they do not breach strict statutory limits for a range of environmental factors (e.g. air quality, noise, vibration, surface water and groundwater). These statutory limits are enforced by the DEHP under the EP Act, and therefore, carry significant penalties for deliberate or persistent breaches. These statutory limits are also designed to protect the environment, reduce nuisance factors, prevent health based issues and allow near neighbours to maintain their lifestyle.

As stated in **Section 9.5.7** of the draft EIS, NAC will undertake a specific consultation approach for local landholders/neighbours that may be potentially affected by air quality impacts from the revised Project. Depending on individual circumstances, NAC will seek to negotiate legal agreement with potentially affected local landholders/neighbours for either property acquisition, relocation of their living arrangements or physical treatment of their residence. If potential air quality impacts cannot be adequately managed by dust minimisation activities and adaptive air quality management, NAC will ensure all negotiations are undertaken in a fair and equitable manner and in accordance with the legal requirements.

In general, NAC's experience with land purchases over the life of the Mine confirms that land values have continued to rise through normal real estate market and other mechanisms. Further research involving discussions about land sales within the Acland area with an experienced local real estate agent, suggests that distance views of the revised Project's infrastructure from surrounding residences are unlikely to cause a loss of property value. The land values of rural properties on the Darling Downs (including the Acland district) are more likely to be influenced by potential agricultural productivity than scenic value.

As described in **Section 17.6.3** of the draft EIS, NAC commenced operations at the Mine in October 2002. Stage 2 of the operations commenced in 2007. NAC formally commenced property acquisitions in early 2007 in anticipation of the Mine's future progression. Prior to this date, NAC made a number of opportunistic purchases within the Study area, including within Acland, as a consequence of direct approaches by landowners seeking sale of their property. Approximately 80% of the 157 owners in Acland approached NAC directly to negotiate sale of their property (NAC pers. comm 2013). Since the

inception of the Mine, NAC has acquired 160 lots totalling an area of approximately 10,151 ha. All property sales have occurred via voluntary negotiations between landholders and NAC.

Many properties were purchased by NAC above market value, while several landholders have entered into lease-back arrangements with NAC and have continued living at the property. NAC are continuing negotiations with interested landholders.