



# Catchment Management Authority Namoi

17<sup>th</sup> April 2013

Department of Planning and Infrastructure  
GPO Box 39  
Sydney NSW 2001

**Attention:** Mr Stephen O'Donoghue, Senior Planner, Mining and Industry Projects

Dear Stephen

**Re: Watermark Coal Project - EIS Review**

Thank you for the opportunity to review the Environmental Impact Statement (EIS) for the Watermark Coal Project.

Namoi CMA has examined the relevant sections of the EIS (main report and appendices) and in particular, reviewed the sections of the report that relate to our main issues of concern. A combination of technical expertise and outputs from the Namoi Cumulative Risk Assessment Tool have been used to inform the attached recommendations.

Namoi CMA has particular concerns pertaining to final landform options/management and surface water quality and quantity impacts.

If you need to discuss this matter further, please do not hesitate to contact Dennis Boschma on (02) 6754 5950 or [dennis.boschma@cma.nsw.gov.au](mailto:dennis.boschma@cma.nsw.gov.au).

Yours Sincerely

Bruce Brown  
General Manager  
Namoi Catchment Management Authority

# **Review of the Environmental Impact Statement Watermark Coal Project**

## **1) Introduction**

Namoi CMA is primarily interested in major developments such as the Watermark Coal Project from the perspective of Catchment impacts and benefits especially in the areas of biodiversity protection, management of landscapes, sustainability of agricultural soils, maintenance of long term productive land use and enhancement of the Catchment's social and economic values.

Namoi CMA advised the former Department of Planning (DoP) on the 22<sup>nd</sup> November 2011 of its environmental assessment requirements for inclusion and consideration in the Director General's Requirements (DGRs) for the Environmental Impact Statement (EIS) for the Watermark Coal Project. We identified 33 issues that required consideration and addressing within the EIS. Additionally, we also provided comment to the Department of Planning and Infrastructure (DoPI) on the 6<sup>th</sup> November 2012 on the adequacy of the EIS for public exhibition.

Namoi CMA has now examined the main report and relevant appendices of the EIS and provides the following specific comments.

## **2) The Project**

Namoi CMA is aware that the general arrangement of the project results in open cut mining around Mt Watermark near Breeza and up to 10 million tonnes per annum of coal will be extracted from 3 pits over a 30 year period.

Namoi CMA is also aware that the project will result in a number of residual impacts inclusive of significant landscape, vegetation and biodiversity change; a significant final void; and, a number of 'out of pit' overburden emplacements.

## **3) Impacts**

### *a) Post determination plans*

Namoi CMA requests that it be consulted during the preparation of post determination plans inclusive of 'Site Water Management Plans', 'Biodiversity Management Plan', 'Koala Plan of Management' and 'Rehabilitation Management Plan(s)'.

### *b) Surface Water*

**Quality** – Namoi CMA has some significant concerns in relation to predicted water quality within the final void. Appendix S along with the EIS predicts that salinity levels within the final void will rise at 5000mg/l over 150 years, which after 450years the salinity levels could be approaching similar levels to sea water. However, an interpretation of Figure 2.14 in

Appendix S contradicts this and predicts that salinity levels could rise by 7,500mg/l each 150years.

Both the EIS on Page 145 and Appendix S on Page 100 state the following ‘In reality, the salinity of runoff inflows is expected to decrease over time, resulting in a slower rate of salinity rise than indicated by the model results’. Namoi CMA has some significant concerns regarding this statement given that:

- It is unsubstantiated, it is understood that runoff may decrease over time, but the salt load may not;
- Approximately 16% of the total salt load to the void is simulated to surface and baseflow catchment runoff; and
- Runoff salinities are only expected to be 800mg/l.

Namoi CMA finds the predicted void salinity levels and the proposed mitigation and safeguard proposals unacceptable (either leaving the void open and in readiness for future and possibly unknown coal mining or leaving the void as a groundwater sink and discounting backfilling the void based on cost alone).

Namoi CMA recommends that Watermark Coal Project re-examine and explore further options for the rehabilitation and management of the final void to prevent ongoing rising salinity levels.

**Quantity** – The project reduces surface water flow in the Mooki Sub-catchment which currently sits well below the critical surface flow threshold of 66%. In response, it is imperative site water management plans embed objectives to maximise clean water run-off from the site into the relevant tributaries within the Mooki Sub-catchment. Required actions include final void reduction or removal and final landscape design to increase area of clean water catchment.

### *c) Ecology*

Namoi CMA is concerned that little assessment has been made in the EIS in relation to CAP 2010-2020 critical thresholds especially in relation to the following CAP target:

**Biodiversity Target 1** - By 2020 there is an increase in native vegetation extent and vegetation does not decrease to less than 70% in less cleared sub catchments and 30% in over cleared sub catchments and no further Regional Vegetation Community decreases to less than 30% extent as identified by 2010 baseline.

The 2010 baseline mapping for Regional Vegetation Communities identified a number of RVCs within the Namoi catchment that have been over-cleared. Many of these vegetation communities are found within the Watermark Coal Project disturbance area including:

- White Box Grassy Woodland, Brigalow Belt South and Nandewar has been cleared to an extent where there is only 27% of the pre 1750 RVC left within the Catchment;
- Box Gum Grassy Woodland, Brigalow Belt South and Nandewar has been cleared to an extent where there is only 17% of the pre 1750 RVC left within the Catchment;

- Inland Grey Box Tall Grassy Woodland on clay soils, Brigalow Belt South and Nandewar has been cleared to an extent where there is only 11% of the pre 1750 RVC left within the Catchment;
- Weeping Myall Open Woodland has been cleared to an extent where there is only 11% of the pre 1750 RVC left within the Catchment;
- Brigalow - Belah Woodland on alluvial clay soil mainly Brigalow Belt South has been cleared to an extent where there is only 22% of the pre 1750 RVC left within the Catchment;
- Semi Evergreen Vine Thicket on basalt hills, Brigalow Belt South and Nandewar has been cleared to an extent where there is only 16% of the pre 1750 RVC left within the Catchment;
- Poplar Box Woodland on alluvial clay soil has been cleared to an extent where there is only 5% of the pre 1750 RVC left within the Catchment; and
- Whitewood Open Woodland has been cleared to an extent where there is only 4% of the pre 1750 RVC left within the Catchment.

Namoi CMA acknowledges that the proposed Watermark Biodiversity Offset Strategy (Onsite) will result in improvements in extent of each of the above RVCs, however Namoi CMA requests that an assessment be undertaken as to the level of improvement expected and how the improvements will assist in meeting Biodiversity Target 1 described above.

#### *d) Biodiversity Offset Strategy*

Namoi CMA is concerned that it appears within Offset Area 6, all areas not currently covered with woody vegetation have been mapped as low diversity grassland and exotic pasture. Namoi CMA is aware that significant areas immediately south of the Kamilaroi Highway which are mapped as low diversity grassland and exotic pasture are currently utilised for regular cropping. These cropping areas are very valuable for agricultural production and Namoi CMA believes that these areas should be retained for this purpose and not revegetated to woodlands as proposed and depicted on Figure 8.6 Appendix K.

#### *e) Soils and Land Capability*

Namoi CMA is concerned with the soil balance. Table 71 indicates that for Land Capability Class III land, a soil profile will be re-established with a minimum of 0.3m of topsoil placed over 0.5m of subsoil which will be placed over competent weathered and friable overburden.

Namoi CMA believes that 0.8m of soil is inadequate to sustain long term regular cropping as specified as the potential land use for Class III land. This depth of soil may support woodland and grassland landuse, however 0.8m of soil will not sustain regular cropping.

Our knowledge and experience indicates that soil depths need to be at least 1.5m in depth to sustain regular cropping. At depths less than 1.5m, rehabilitated soils will have difficulty holding and supplying enough moisture for seasonal plant growth; providing enough foundations for plant roots; enabling adequate cycling of nutrients; allowing for soil

formation; providing conditions for soil biology; assisting with buffering for pH and Ec; and resisting erosion.

There are a number of options available to the proponent to ensure regular cropping Class III landuse can be undertaken on the land dedicated for regular cropping including:

- Increasing soil depth with surplus soil from soil stripping estimates as detailed in Table 71; and
- Decrease the area dedicated to agricultural purposes within the project disturbance area which in turn results in more area for woodland and grassland. This can be offset by increasing the area in Offset Area 6 which is retained for agricultural purposes, especially the high value land adjacent to the Kamilaroi Highway.

Furthermore, the assessment of Land Capability extends beyond the project disturbance area into Offset Area 6. Based on knowledge of the area and of land capability classification systems, plus a cross check with Namoi CMA data, the land capability assessment for Offset Area 6 is inadequate especially near Long Mountain. As assessment of land capability is a major platform for restoration and agricultural landuse, Namoi CMA recommends that land capability assessment for Offset Area 6 be reconsidered.

Namoi CMA has examined Section 7.20 Agriculture of the EIS and the following comments are provided:

- As detailed in Section 7.20.2 Methodology, land capability assessments have been used as the basis for determining the agricultural domains. Similar to Section 3.6 above, Namoi CMA has concerns in relation to the land capability assessment for Offset Area 6. We believe the land capability assessments for this area are inadequate.
- We are aware that significant areas adjacent to the Kamilaroi Highway are very valuable food producing areas that would be Domain B, while the side slopes adjacent to Long Mountain are more likely to be Domain D.

As the area of the Domains have been used in conjunction with Gross Margin Budgets to determine current and maximum value for each enterprise, we believe that the final agricultural impact results are flawed due to the inadequate initial land capability assessments.

#### *f) Rehabilitation, Land Use and Final Landform*

With regard to landforms re-established, coarse reject, coal rejects and overburden must be buried at least 3m below the final land surface. This material must be covered with more friable and weathered material before replacement of subsoils and topsoils,

As previously stated, Namoi CMA has some significant concerns with regard to the final void especially in relation to rising salinity levels within the resultant pit lake. We request that every consideration be given to reducing the size, depth, batter grades and groundwater performance of the final void.

Further options are required to create a final landform that mitigates the risks above, and inherently provides a more usable final landform.

## 4) Summary & Recommendations

Namoi CMA has reviewed the Watermark Coal Project and has the following recommendations either requiring further analysis/clarification or conditional approval:

- a) Namoi CMA be consulted during the preparation of post determination plans inclusive of 'Site Water Management Plans', 'Biodiversity Management Plan', 'Koala Plan of Management' and 'Rehabilitation Management Plan(s)';
- b) Namoi CMA recommends the Namoi Water Study outputs be considered and included in any future groundwater management planning for the Watermark Coal Project;
- c) Namoi CMA recommends that prior to determination the proponents explore and test further options for the rehabilitation and management of the final landform particularly in regard to eliminating the presence of a large void, highly saline residual water bodies and unstable landforms with very limited landuse capacity;
- d) Biodiversity offset options proposed for Offset Area 6 require review to ensure final landuse is optimised particularly the high value cropping lands immediately south of the Kamilaroi Highway. From an inherent economic benefit perspective due consideration should be given maintaining these areas for agricultural production given they are currently managed under regular cropping activities and provide long term economic value to the community;
- e) All coal rejects and overburden must be buried at least 3m below the final land surface and covered with more friable and weathered material before the placement of subsoils and topsoils;
- f) Review land capability assessments for Offset Area 6 in consultation with Namoi CMA and adjust economic impacts accordingly;
- g) Site water management plans embed objectives to maximise clean water run-off from the mine site into the relevant tributaries within the Mooki Sub-catchment;
- h) An assessment be undertaken as to the level of improvement expected within the Biodiversity Offset Area and how the improvements will assist in meeting the Biodiversity Target 1 of the Namoi Catchment Action Plan 2010-2020; and
- i) Prior to approval further consultation be undertaken with Namoi CMA to inform the appropriate depth and structure of soil profiles to be created on rehabilitated areas to suitably match intended landuse such as cropping or native woodland.

Dennis Boschma  
Team Leader  
Namoi Catchment Management Authority