NSW GOVERNMENT | **Office of Water**

Major Development Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

c: Fergus Hancock
t: 02 4904 2532
f: 02 4904 2501
e: Fergus.Hancock@water.nsw.gov.au

Our ref : ER20354
Your ref: 10/03652

31 October 2011

Attention: Paul Freeman

Dear Paul

Austar Coal Mine Stage 3 Mine Approval Modification - MP 08_0111 MOD 2

The NSW Office of Water (NOW) has reviewed the Environmental Assessment (EA) for the proposed Austar LW 5a extension. NOW directs your attention to its previous submission in relation to Austar coal mine dated 19 October 2007 with reference to its assessment of this application.

Austar Coal has conducted ongoing subsidence verification monitoring and reporting, which was assessed as requiring additional concentration on impacts and consequences to Quorrobolong and Cony Creeks for the approval of longwall panels A3-A5.

NOW emphasises the need to protect water access to existing users, including environmental water requirements in the Upper Wollombi Brook Water Source. This may be achieved by recognising existing relationships of storage and transmission within Quorrobolong and Cony Creeks and their alluvium, protecting these relationships and accounting for potential lateral displacement of alluvial water.

The EA presents details on proposed groundwater monitoring to the altered Area 3 longwall configuration. However, little detail is presented as to nominated trigger levels to groundwater response, or mitigation responses should drainage from the alluvium exceed minimal levels.

NOW requests a consent condition requiring Austar Coal to develop a groundwater monitoring and contingency response programme in consultation with and to the satisfaction of the NSW Office of Water. NOW's previous correspondence related to Austar Area 3 dated 20 September 2007 and 5 December 2008, provide the Applicant with NOW's requirements regarding the development of a groundwater monitoring programme able to demonstrate minimal interference with the Cony and Sandy Creek alluvium, and monitoring and response mechanisms to predicted and potential impacts upon those alluvial groundwater sources.

Subsidence expression is predicted to reach maximum limits after the extraction pass under Sandy Creek at the inbye end of LW 19. This is predicted to reach 1675mm, with upsidence and closure at predicted levels which would be sufficient in other geomorphic contexts to induce surface fracture and flow drainage. NOW seeks assurance from the

Applicant that minimal damage to Sandy and Cony Creeks will occur, and commitment to effective and prompt responses to any subsidence-induced impacts to ensure the maintenance of pre-subsidence flow and erosion potential conditions.

NOW requests a condition of approval to the modification require the Applicant to develop a stream management plan to address subsidence impacts on Quorrobolong, Sandy and Cony Creeks and connected alluvium, in consultation with and to the satisfaction of NOW. The stream management plan is to provide a monitoring and response framework to address the consequences of mining subsidence on Quorrobolong, Cony and Sandy Creeks and prevent significant channel destabilisation and incision and erosion of bed and banks of the above watercourses.

Within the stream management plan, a monitoring plan must be developed to identify areas of risk of geomorphic instability and areas of increased out of channel flooding and drainage which may increase erosion risk to the above watercourses.

The monitoring plan must provide:

- Survey chainage along Quorrobolong, Cony and Sandy Creeks;
- Identification of geomorphic controls on Quorrobolong, Cony and Sandy Creek, for the entire subsidence envelope of the proposed extraction area, and for each longwall panel (closest to inflection points between centre of panel and chain pillars);
- Existing erosion, and any changes in longitudinal profile along Quorrobolong, Cony and Sandy Creek;
- Cross section profiles at defined chainages (control and inflection points) along Quorrobolong, Cony and Sandy Creek;
- Vegetation assemblages along Quorrobolong, Cony and Sandy Creek, and any breaks in vegetation which may lead to increased risk of scour and erosion under pre- and post- subsidence conditions; and
- Survey and photographic records of creek condition and controls to record changes from pre- to post- subsidence conditions

NOW requests the above information to be submitted to NOW for review within three months of any modification to project approval.

Within the stream management plan, a response management plan must be developed to address likely responses to mining-induced subsidence, including impacts to channel stability, vegetation and ecosystem responses to increased scour velocities and/or ponding and identify any necessary stabilisation works for installation in the above watercourses post-subsidence.

The response plan must assess the likely alterations in stream hydrology and erosion risk to Quorrobolong, Cony and Sandy Creeks following mining-induced subsidence, and nominate triggers for assessment of any necessary remediation to these watercourses. This is to include risk based assessment of geomorphic destabilisation of bed and bank and potential removal of pool and riffle sequences on the watercourses. The assessment must include defined trigger thresholds beyond which erosion initiation is likely for the river style and likely entrainment of bed and bank materials in consultation with and to the satisfaction of NOW.

Monitoring reports, including mine inflows, depressurisation of alluvium and changes in bed profiles on Quorrobolong, Cony and Sandy Creek must be submitted to NOW on completion of each longwall panel. The response plan must be submitted for NOW for review and incorporate timeframes regarding the submission of monitoring reports.

Should you require any clarification of the above, please contact Fergus Hancock on (02) 4904 2532.

Yours sincerely

Mark Mignanelli
Manager Major Projects and Assessment