

Notice

Environmental Protection Act 1994

Environmental Evaluation

Notice to conduct or commission an environmental evaluation

This notice to conduct or commission an environmental evaluation is issued by the administering authority pursuant to 326B of the Environmental Protection Act 1994.

TEC Coal Pty Ltd
Level 13, 42 Albert Street
BRISBANE QLD 4000

Your reference:

Our reference: CA34208

21 December 2016

Take notice: that under the *Environmental Protection Act 1994* (the Act) a notice to conduct or commission an environmental investigation is issued to TEC Coal Pty Ltd (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Heritage Protection (the department).

The notice to conduct or commission an environmental investigation is issued in respect of the activities of TEC Coal Pty Ltd at Meandu Coal Mine on land described as Mining Lease (ML) 6674 located 4 kilometres west of Yarraman).

A. Grounds

The notice to conduct or commission an environmental investigation is issued on the following grounds:

- An activity is causing or is likely to cause environmental harm.

The facts and circumstances forming the basis for these grounds are:

- Acid and metalliferous drainage (AMD) has been identified at Meandu Coal Mine (MCM) which is operated by TEC Coal Pty Ltd (TEC) on mining lease (ML) 6674. The full nature source and extent of the AMD is unknown. There is potential for impacts on downstream aquatic ecosystems and other water users in the event of AMD releases from MCM. These impacts could be either acute impacts or long term chronic impacts as a result of the build-up of metals due to gradual oxidation and sedimentation in sectors of the downstream environment; there is also potential for adverse impacts on groundwater quality, including contamination by mobilised metals and metalloids.
- AMD is currently reporting by overland flow to Retention Dam (RD) 7 in the retention dam network on the western side of the mine, where it is mixing with other mine affected water. Water from RD7 flows to RD8 where it is either re-used for site processes or reports to the Meandu Creek Dam via release point CP3.
- AMD reporting to RD7 is believed to be originating from two (2) closely associated seepage locations these are:

Notice to conduct or commission an environmental evaluation

- 'Bullgang Corner' located approximately 600m southeast of RD7; and
 - A covered (vegetated) coal rejects area between Ramp 7 and the western side of the NWA tailings void (NWA tailings). This coal rejects area is assumed to be rehabilitated in the current Plan of Operations for Meandu Coal Mine. This area will need to be evaluated to determine if remedial works will be necessary in the future.
- Deposition of tailings to the NWA tailings ceased in December 2005; and tailings are currently deposited in the NWB tailings void.
 - TEC appointed an external consultant hydro-geochemist in October 2015 to evaluate AMD at MCM and has engaged in regular meetings with the department to provide updates in relation to AMD issues.
 - The department was advised in February 2016 by TEC that, an 'AMD impact focused' monitoring data review by the consultant hydro-geochemist had identified that AMD has occurred periodically at MCM since the 1980's.
 - Existing surface flows of AMD are being intercepted and treated by TEC to raise the pH and attempt to precipitate and settle soluble metals in the AMD; and ensure that released mine-affected water does not result in EA exceedances in receiving waters (monitored in-stream at CP3). The EA requires monitoring of EC at CP3.
 - The department requires that an investigation be undertaken to determine whether adverse environmental impacts to Meandu Creek could result from release of AMD impacted water with elevated metals from MCM. It is not at this stage known if the concentrations of metals resulting from the release of AMD to Meandu Creek are causing an exceedance of the relevant guideline values for protection of aquatic ecosystem and any other relevant environmental values.
 - The department has determined that investigations are required to:
 1. Determine whether environmental harm has occurred as a result of AMD at MCM.
 2. Identify and characterise the AMD and material with potential to generate AMD in the NW tailings void/ spoil dump and rehabilitated rejects to assess the extent of environmental harm likely to be caused by the AMD; and to determine the effects of AMD ingress to stored historical tailings .e.g. potential dissolution of metal contaminants in the tailings which may be transported to the receiving environment in the seepage.
 3. Identify other locations at MCM where AMD is occurring; and to identify potential AMD source materials at MCM.
 4. Determine the potential for AMD related environmental harm (acute and/or chronic impacts on the aquatic ecosystem and other relevant WQO's) that could occur from future (ongoing) activities at MCM, including potential Impacts from:
 - build-up of metals in sediment downstream of Meandu Creek Dam; and
 - elevated metal concentrations in Meandu Creek waters; and
 - alteration of the pH of Meandu Creek Dam waters and release of sediment bound contaminants to the downstream environment; and
 - elevated salinity levels in Meandu Creek waters.

B. Requirements

The report on the environmental investigation must address the following relevant matters:

Notice to conduct or commission an environmental evaluation

- (1) An **appropriately qualified person(s)** as defined in this notice must provide background and baseline information for the coal mining activity relevant to the environmental investigation including:
- i) a description of MCM (ML6674) operations and a brief history of operations on MCM; and
 - ii) a (dedicated) site plan showing the location of key features of the MCM; and
 - iii) a summary of water quality data relevant to the investigation; and
 - iv) a summary of geochemical data relevant to the investigation; and
 - v) a (dedicated) topographic map of the MCM; and
 - vi) a brief history and overview of the AMD at the site (from first known (historic) indicators to current awareness).

- (2) An **appropriately qualified person(s)** as defined in this notice must identify and characterise the environmental values that may be impacted by AMD from MCM.

This characterisation must include land and groundwater environmental values that may be impacted by AMD from MCM.

The characterisation of Meandu Creek must:

- i) identify any Environmental Values (EV's) and Water Quality objectives (WQO's) scheduled for Meandu Creek under the EPP Water; and
- ii) if none are identified propose EV's/WQO's where required for Meandu Creek; and
- iii) provide a description of the existing qualities, characteristics and resilience of Meandu Creek; and
- iv) with reference to items (i) to (iii) above determine the mine-affected water release quality that must be achieved to protect the relevant EV's of Meandu Creek.

- (3) An **appropriately qualified person(s)** as defined in this notice must undertake studies to determine the presence and extent of AMD at MCM, and to determine the acid generating potential of materials at MCM; the studies must include:

- i) geochemical assessments to characterise the chemical and physical properties of any materials at MCM (soil, overburden, in-pit side cast coal, product coal, rejects, tailings, ash etc.) with potential to generate AMD so these materials can be classified and then managed appropriately; and
- ii) contaminant hydrogeological investigations inclusive of drilling and installation of monitoring bores (if required); and
- iii) studies to identify the extent and locations of potential AMD source materials at MCM; and
- iv) investigations to identify physical and/or environmental influences relating to storage areas (coal rejects, overburden, waste rock, and topsoil) that may determine the occurrence, rate of progression, or volume of AMD generated at MCM for example: stockpile location, size, surface area, profile/geometry, water infiltration and drainage characteristics.
- v) a dedicated site plan showing the location and extent of AMD at MCMs, including existing seepage flow paths.

- (4) An **appropriately qualified person(s)** as defined in the notice must undertake studies to determine whether AMD at MCM has impacted on or has the potential to impact on the environmental values of groundwater and/or surface waters including Meandu Creek. The studies must include

Notice to conduct or commission an environmental evaluation

- i) water quality investigations to determine any impacts on environmental values of groundwater and surface waters (Meandu Creek) that have occurred as a result of AMD at MCM; and
 - ii) water quality investigations to determine future potential impacts on environmental values of groundwater and surface waters (Meandu Creek) resulting from AMD at MCM; and
 - iii) identify short term and long term measures including (if relevant) further lines of investigation, monitoring requirements, and operational or mine planning measures that should be developed and/or implemented to prevent environmental harm occurring from AMD at MCM.
- (5) An **appropriately qualified person(s)** as defined in the notice must develop a predictive model for MCM in relation to potential AMD impacts to provide information relevant to development of:
- Mine material management plans
 - Mine water management plans
 - Landform and rehabilitation management plans
 - Closure plans
- The predictive model must include:
- i) a material model (based on geochemical characterisation); and
 - ii) mine water modelling that takes into account surface water, ground water and in pit and in mine spoil water; and
 - iii) potential contaminant pathways; and
 - iv) capacity to predictively model acid production at MCM; and
 - v) capacity to predictively model the dissolution and transport of metals to the receiving environment from MCM; and
 - vi) capacity to predictively model water quality impacts from AMD on groundwater and Meandu Creek.
- (6) An **appropriately qualified person(s)** as defined in the notice must develop a report detailing and evaluating the findings from requirements (1) to (5) above and prepare a report based on these findings for submission to the department. The report must:
- i) Summarise the findings of requirements (1) to (5) above; and
 - ii) Identify the level of impact AMD from MCM has had on environmental values of receiving environments: and
 - iii) Identify potential impacts of AMD from MCM on environmental values of receiving environments: and
 - iv) Provide recommendations in regard to management and treatment of AMD at MCM.
- (7) Provide the department with a progress update on actions and outcomes of investigations to date, associated with requirements (1) to (5) on or before the following dates;
- i) 31 May 2017;
 - ii) 29 September 2017;
 - iii) 31 May 2018;

Notice to conduct or commission an environmental evaluation

The environmental investigation must be carried out, and the environmental report prepared, by an appropriately qualified person. An **appropriately qualified person** means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

The environmental report must be submitted to the department on or before:

- **5pm Friday 14 September 2018**

As the recipient of this notice, you are also required to provide a statutory declaration in the form attached, to accompany the environmental report submitted to the department. The **appropriately qualified person (s)** who prepares the environmental report must also provide a statutory declaration in the form attached to accompany the environmental report submitted to the department.

You can view an electronic version of the statutory declaration for a recipient using the following search term (EM494).¹

An electronic version of the statutory declaration for an appropriately qualified person form is available using the search term (EM471).

Take notice:

1. the requirements of the notice to conduct or commission an environmental investigation take effect immediately upon service of this notice;
2. this notice remains in force until further notice from the department; and
3. you are responsible for meeting the costs of conducting or commissioning the environmental evaluation, preparing the environmental report and providing any further information as requested by the department.

C. Reviews and appeals

The provisions regarding reviews of decisions and appeals are found in sections 519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must be made:

- within 10 business days of the decision being notified to the person;
- be supported by enough information to enable the department to decide the application for review; and
- be made using the application for review of an original decision form (EM709).

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

¹ This is the publication number. The publication number can be used as a search term to find the latest version of a publication at <www.ehp.qld.gov.au>.

Notice to conduct or commission an environmental evaluation

A person whose interests are or would be adversely affected by a decision of the department may also be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

For further information about reviews and appeals see the:

1. Information sheet - internal review and appeal to the Planning and Environment Court (EM1866).
2. Information sheet - internal review and appeal to the Land Court (EM1157).

You may have other legal rights or obligations and should seek your own legal advice.

D. Penalty

Failure to comply with a notice to conduct or commission an environmental evaluation is an offence.

- i) The maximum penalty for an individual is 300 penalty units, totalling \$36,570.
- ii) The maximum penalty for a corporation is 1500 penalty units, totalling \$182,850.

Should you have any queries in relation to this notice, please contact Carol Hardy of the department on telephone number (07) 41211935.



Signature

21 DECEMBER 2016

Date

Tony Baker

A/Manager (Compliance)

Delegate of the Chief Executive

Department of Environment and Heritage Protection

Environmental Protection Act 1994

Enquiries:

Carol Hardy

Ph: (07) 41211935

Email: carol.hardy@ehp.qld.gov.au