



## Office of Water

5 November 2010

Major Development Assessments  
Department of Planning  
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**Attention: Kate Masters**

**Our ref :** ER20843  
**Your ref:** S09/01810

**SUBJECT: MT PIPER PLACEMENT PROJECT – LITHGOW LOCAL GOVERNMENT  
AREA (APPLICATION REFERENCE: 09\_0186)**

The NSW office of Water (NOW) has reviewed the Environmental Assessment (EA) for the Mt Piper Placement Project – Lithgow Local Government Area (Application Reference: 09\_0186).

The information presented in the EA and technical reports is insufficient to allow for an adequate assessment of potential impacts of the proposed ash placement sites of Lamberts North and South, Neubecks Creek and Ivanhoe No. 4.

However due to the importance of the project proposal NOW has no objection to the concept and development projects for ash disposal areas for Mt Piper Power Station with recommendations to be implemented prior to project commencement.

NOWs comments and recommendations are located in Attachments A and B.

If you require further information please contact Jodie Dabovic on 4904 2571.

Yours sincerely

**Mark Mignanelli**  
**Manager Major Projects and Assessment**

## NOW COMMENTS

**MT PIPER PLACEMENT PROJECT – LITHGOW LOCAL GOVERNMENT AREA  
(APPLICATION REFERENCE: 09\_0186)****1. Surface Water Hydrology****a. Climate Data Interpretation**

Information is presented in the hydrology and water quality technical report for the rainfall and evaporation characteristics of the region surrounding Mt Piper Power Station. A graph and annual average data is presented and clearly indicates that the evaporation exceeds rainfall in all months except in June, July and August. The report however states that rainfall is higher than evaporation within the Mt Piper Area and therefore will be water available on site for dust suppression and rehabilitation (Section 2.1 of Technical report).

**b. Water Courses**

The water courses identified in the EA for the project area of Lamberts North and South are Lamberts Gully and Huons Gully. Huons Gully drains into Huons Pond also known as Groundwater Collection Basin (GCB). The GCB has been identified as an old mine void which collects groundwater seepage. Both water courses are 2<sup>nd</sup> order streams which drain from the head waters located in Ben Bullen State Forest. It is indicated that there are several water retention storages within these water courses. The water from these dams including the GCB is reused on site for dust suppression and rehabilitation for the current ash disposal area and is proposed to be used for the Lamberts North and South Ash areas. There has been no assessment for maximum harvestable rights dam capacity for the site catchments or a comparison of the MHRDC with the actual volume of these retention storages.

**c. Quality**

There are no detailed monitoring results presented in the EA. Results given are only average measurements for water quality in Neubecks Creek. There are no other surface water quality monitoring sites in the other water courses indicated in the EA.

**2. Groundwater****a. Regional Hydrogeology**

The hydrology and water quality technical report stated that a registered water bore search was conducted using the DIPNR groundwater database and that there were only three registered water bores within approximately 3 km from Mt Piper power Station. The Bore numbers were provided in a Table with a general description of bore parameters (Table 3-1). This search done by the proponent is inadequate, as there are many bores within the Mt Piper and Wallerawang Station areas. The bores identified within the EA are closer to Wallerawang Power Station and located approximately 10 km from the Mt Piper area.

**b. Water Levels and Quality Monitoring**

There are no detailed monitoring results presented in the EA. Results given are only average measurements for water quality and approximate water levels. This information is inadequate to enable an assessment of the current conditions within the area and to provide assessment on impacts to the groundwater from Ash Area 1. Data should be presented in graphs for each sampling occasion to show any

variation in quality between sampling dates. The groundwater levels should be measured at least daily to give an indication of water levels due to climatic variability within the region.

The EA states that four additional bores were drilled in Lamberts Gully in December 2009. Only approximate water levels are presented and no water quality data. There has been sufficient time to have started monitoring these wells and to have presented data.

No water level contours or flow direction maps have been provided along with detailed modelling results from the groundwater model conducted for the current ash disposal area.

There are no monitoring bores indicated for the concept areas of Neubecks Creek and Ivanhoe No 4 and to date no groundwater monitoring has been conducted.

### **3. Site Water Balance**

The site water balance appears to be developed on the assumption that rainfall is higher than evaporation in the Mt Piper Area and that groundwater inflows are minimal in the GCB. Due to the results presented in Figure 2-2 for rainfall/evaporation and conflict with rainfall and evaporation statements (Section 2.1), the evaporation averages developed from the Bathurst Agricultural Station and the lack of groundwater data provided (Table 2-11 – Summary of inputs and demands for data included in model). NOW have concerns about the accuracy of the site water balance model. As there has been no indication of an alternate water supply for drought contingency, NOW have provided conditions in Attachment B for a revised site water balance.

**End Attachment A  
5 November 2010**

**NOW RECOMMENDATIONS**  
**MT PIPER PLACEMENT PROJECT – LITHGOW LOCAL GOVERNMENT AREA**  
**(APPLICATION REFERENCE: 09\_0186)**

**1) Surface Water Hydrology**

- a) A number of water retention storages have been identified in the EA which are used on site for dust suppression and rehabilitation for the active ash disposal area and for the proposed ash disposal areas and are located on 2<sup>nd</sup> order streams. The use of this water may require licences under the relevant water legislation, depending on their size relative to the MHRDC.
- b) Assessment of maximum harvestable rights dam capacity for water retention dams associated with the 2<sup>nd</sup> order streams within the project area.
- c) NOW request the Applicant provide surface water and groundwater connectivity, water quality and ecological assessments and monitoring programs in Neubecks Creek, Huons Gully and Lamberts Gully in addition to the current water quality monitoring in Neubecks Creek. The assessments and monitoring program are to be developed in consultation with NOW. These assessments and monitoring programs will enable trigger levels and minimal harm criteria to be developed for the ecosystems within the project area.
- d) Any drainage line diversions are to have a geomorphic assessment conducted by a qualified and experienced geomorphologist. Any diversions are to be in accordance with NOWs Controlled Activities Guidelines. All stream diversion data is to be provided to NOW for review prior to construction of the ash disposal dams.

**2) Groundwater**

- a) GCB has been identified in the EA as a groundwater seep. The water is extracted for use on site for the active ash disposal area and for the proposed ash disposal areas. Under the *Water Act 1912* and *Water Management Act 2000* (once the *Greater Metropolitan Region Unregulated River and Groundwater Sources 2010*, Water Sharing Plan due for commencement in early 2011), all extraction of groundwater is to be licensed.
- b) A bore search is to be undertaken to identify all the users in the Mt Piper and Wallerawang Power station areas with a 5 km radius search from each power station. Impacts to other users are to be identified due to potential groundwater contamination and any groundwater extraction with contingency measures developed.
- c) Groundwater monitoring program is to be conducted around all proposed ash disposal areas pre, during and post ash disposal. This program is to quantify groundwater quality and quantity within the area and develop trigger levels for negligible impact to ecosystems and other users.
- d) Trigger levels and minimal harm criteria are to be developed prior to commencement of ash dam operations for potential contamination and change in groundwater levels. The trigger levels will form the basis for the initiation of a contingency plan (see section 4 below).

**3) Site Water Balance**

NOW seeks clarification of the site water balance.

- a) The site water balance is to be revised prior project commencement with the balance model to take into account:
  - i. volumes of groundwater seepage into the GCB,

- ii. provide details on water usage for current ash disposal area and predicted water usage requirements for years 1 to 5 for the proposed ash disposal areas,
  - iii. updated evaporation calculations based upon climatic data within the Lidsdale area, and
  - iv. net evaporation from storages
  - v. net runoff generated, stored and used.
- b) Any potential additional water requirements above harvestable rights need to be identified and licences obtained under the relevant water legislation.
- c) Identify alternative water supply for drought contingency.

**4) Water Management Plan**

- a) Groundwater and surface water assessment methodologies and site locations are to be incorporated into the Water Management Plan within 6 months of approval and provide to NOW for review.
- b) Contingency plan for exceedences to trigger levels is to be developed and incorporated into the water management plan within 6 months of baseline monitoring of surface water and groundwater sources (see sections 1 and 2 above) in consultation with NOW. The Plan is to include the following:
  - i) Details of any proposed monitoring programs, including water levels and quality data.
  - ii) Reporting procedures for any monitoring program including mechanism for transfer of information.
  - iii) An assessment of any surface or groundwater source/aquifer that may be sterilised as a consequence of the proposal.
  - iv) Identification of any trigger levels and minimal harm criteria at which remedial measures or contingency plans would be initiated.
  - v) Description of the remedial measures or contingency plans proposed.
  - vi) Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.
- c) Annual reporting of all surface and groundwater assessment results showing any variations in groundwater quality, quantity and comparison to trigger levels.
- d) Annual reporting of surface water quality, quantity, base flow contribution, and ecology which is to be compared to groundwater quantity and quality results for the project area and to trigger levels.

**End Attachment B**  
**5 November 2010**