

Melissa Anderson  
Senior Planning Officer  
Minerals & Quarry Assessments

Via: Major Project Portal

Dear Ms Anderson

**Re. Chain Valley Colliery - Modification 4 (SSD-5465-Mod-4)**

I refer to your request of 23 November 2020 for advice regarding Chain Valley Colliery Modification 4. The Resources Regulator has reviewed the request.

**Assessment**

In regard to subsidence, the Resources Regulator has identified issues around the proposed management of this hazard. The proposal to mine using the first workings method in the Northern Mining Area (NMA) and a suggested subsidence limit of 20mm poses several issues that require additional consideration. The Regulator notes that the NMA underlies the Lake Macquarie foreshore, residences, roads, infrastructure and other amenities.

The geotechnical assessment indicates the proposed workings' floor has the potential to be comprised of soft claystone. No other site-specific information relating to seam floor conditions has been presented in the geotechnical assessment.

Soft claystone in the roof or floor strata is known to have the potential to adversely affect the performance of coal pillars, in terms of both overall stability and/or increased subsidence due to excessive settlement. It is not clear that the geotechnical assessment has taken into consideration the effects of the potential soft floor materials.

The Regulator also notes that in 2017 measured subsidence over mini-walls MW7 to MW12 at Chain Valley Colliery substantially exceeded predictions. The mine operator's geotechnical consultant at the time concluded this was due to yielding (i.e. failure) of the claystone floor causing "pillar-punching" of the mini-wall chain pillars.

Despite the differences in layout and pillar loading conditions of the mini-walls, this previous subsidence incident highlights the potential adverse effects on pillar performance in the NMA due to possible soft seam floor conditions.

In the absence of site-specific information or assessment relating to the potential effects of soft seam floor conditions in the NMA and given the proposed mine layout it is possible the predicted subsidence limit of 20 mm will be exceeded.

The Regulator advises that Planning consider the following actions:

- Require the proponent to undertake investigations into the site-specific conditions, specifically the Fassifern Seam floor in the NMA;

- Commission an independent review into the mine layout design taking into consideration the results of the abovementioned site-specific investigations and the previous exceedance of subsidence predictions for mini-walls MW7 to MW12.

In relation to mine rehabilitation matters the Regulator did not identify any specific concerns.

**Regulatory requirements if approved**

A revised Mining Operations Plan (MOP) is required prior to the commencement of the activities described in the extension area outlined in the Modification SEE.

The Resources Regulator will also undertake assessments of the mine operators' proposed mining activities under clause 33 and clause 67 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 as well as other WHS regulatory obligations.

**Background**

The Mining Act Inspectorate within the Resources Regulator has responsibility for providing strategic advice on environmental issues as they relate to or affect mine rehabilitation.

The Mine Safety Inspectorate within the Resources Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular the effective management of risks associated with the principal hazards as specified in the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

**Contact**

Should you require any further information or clarification, please contact the Office of the Executive Director ([ED.ResourcesRegulator@planning.nsw.gov.au](mailto:ED.ResourcesRegulator@planning.nsw.gov.au))

Yours sincerely,



**Anthony Keon**  
**Executive Director**  
**Resources Regulator**

10 December 2020