

FAO Mark Hill
Head of Development Management
North York Moors National Park Authority
The Old Vicarage
Bondgate
Helmsley
York
YO62 5BP

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Lichfields ref: 50303/04/HS/AK/14137433v2

Sirius ref: 40-LCH-AUT-LE-0004

Your ref: NYM/20014/0676/MEIA

Dear Mark

North York Moors: Woodsmith Mine: Applications for a Non Material Amendment to Planning Permission NYM/2014/0676/MEIA

On behalf of our client, Sirius Minerals, Lichfields is pleased to submit this application for a non material amendment (NMA) to planning permission NYM/2014/0676/MEIA.

This NMA relates to a change to the approved construction methodology for the North Yorkshire Polyhalite Project. Specifically, this application seeks to replace the previously approved grouting and cast concrete wall scheme for Woodsmith Mine with more localised diaphragm walls.

The submission of this NMA follows your meeting of 08 May with Sirius Minerals and our subsequent telephone conversation of 10 May, during which we discussed the proposed scheme change and the most appropriate procedural mechanism to secure it. We also agreed that any NMA should be supported by an assessment of the impacts from both a hydrogeological and acoustic perspective.

Proposals

As noted above, this application seeks permission to replace the previously approved grouting and cast concrete wall scheme for Woodsmith Mine with more localised diaphragm walls.

The previously approved scheme utilised grouting around all headframe chambers and roads to manage groundwater ingress whilst the excavations were completed and the concrete structures were installed.

The proposed scheme will achieve effective groundwater control through the placement of concrete walls utilising Diaphragm Wall construction methodology for the Production, Service and MTS Shafts. The walls can be described as follows:

- Service Shaft: a diaphragm wall will be constructed 1.2 m wide, 37.4m diameter and 60 m deep, below the Shaft Platform at an elevation of 203.17 m AOD, as illustrated in AMC Drawing No. 40-AMC-WS-12-CI-DR-1901, 40-AMC-WS-71-CI-DR-0079 and 40-AMC-WS-71-CI-DR-0080. This wall will be constructed to minimise groundwater ingress into the shaft and achieve a maximum design permeability of 1×10^{-10} m/s for joints and concrete down the full wall height.

- Production Shaft: a diaphragm wall will be constructed 1.2 m wide, 34.4m diameter and 60 m deep, below the Shaft Platform at an elevation of 200.66 m AOD, as illustrated in AMC Drawing No. 40-AMC-WS-11-CI-DR-1901, 40-AMC-WS-71-CI-DR-0079 and 40-AMC-WS-71-CI-DR-0080. This wall will be constructed to minimise groundwater ingress into the shaft and achieve a maximum design permeability of 1 x 10⁻¹⁰ m/s for joints and concrete down the full wall height.
- Mineral Transport System Shaft (MTS): a diaphragm wall of 1.2m wide, 10.4m diameter and 60m deep is to be constructed from the Shaft Platform at an elevation of 200.8m AOD, as illustrated in AMC Drawing No. 40-AMC-WS-13-CI-DR-1901, 40-AMC-WS-71-CI-DR-0079 and 40-AMC-WS-71-CI-DR-0080. This diaphragm wall is to be constructed to achieve a maximum design permeability down the full wall height of 1 x 10⁻¹⁰ m/s.

During these works, the dewatering system installed during phase 3 will operate to control the ground water level locally to the works, initially to a level of 1.5m below the working platform level for guide wall construction, then to 3m below working platform level for diaphragm walling.

The timetable for undertaking these works, including the associated groundwater management scheme, is July 2017 to March 2018. The works are currently planned to be carried out in the following sequence:

- 1 Dewatering (previously approved under Phase 3 works);
- 2 Construction of guide walls at the services shaft;
- 3 Erection and commissioning of the bentonite plant (concurrent with guide wall construction);
- 4 Commencement of diaphragm walling at the services shaft;
- 5 Construction of guide walls at the production shaft;
- 6 Commencement of diaphragm walling at the production shaft;
- 7 Commencement of guide walls at the MTS shaft; and
- 8 Commencement of diaphragm walling at the MTS shaft.

Assessment

Groundwater

The approved near surface construction methodology at the mine site included a shaft platform at 200.7m and head frame chambers to the Production and Service Shafts to around 75m and 40m below ground level (bgl). Groundwater management measures incorporated into the approved design, to mitigate groundwater level draw down impacts on sensitive hydrogeological receptors (i.e. springs and hydrogeologically supported terrestrial ecosystems), including a perimeter grout wall and groundwater relief drain around the perimeter of the shaft platform and a recharge trench along the south western boundary. Groundwater management incorporated into the approved design to mitigate groundwater ingress into the headframe chamber during construction comprised provision of a grouted annulus around the structure.

The principal detailed design changes to the near surface development, which interact with the local hydrogeology, have been to raise the shaft platform to 207m AOD, which negated the requirement for the groundwater drainage layer, and replacement of the grouted annulus and concrete headframe chambers with a diaphragm wall construction incorporating temporary dewatering to 3m. As a consequence of these design changes, the hydrogeological impact on sensitive hydrogeological receptors has been reduced such that no adverse groundwater level draw down will be caused. As such, there is no requirement for implementation at this stage of a perimeter grout wall and groundwater relief drain around the perimeter of the shaft platform or a recharge trench along the south western boundary.

The revised near surface development design has therefore been devised to manage and mitigate the hydrogeological impacts of these works in an appropriate manner and obviate the requirement to implement the grout wall, relief drain and recharge trench at this stage of the development.

The results of the multi-layered Transient State modelling has determined that there is no significant physical change in the groundwater levels in the Moor Grit or Scarborough Formations underlying the hydrogeologically supported Spring Flush ecosystem and no significant physical change in the groundwater levels or spring flow rates at the spring water supply at Moorside Farm Spring or to Soulsgrave Farm Spring. On the basis of this modelling, it has been confirmed that there is no requirement for any additional groundwater control measures to be implemented as part of the Phase 4 Works to mitigate physical impacts on groundwater levels or spring flow rates on sensitive receptors. There is therefore no effect on the findings of the original environmental assessment in respect of hydrogeology.

Noise

The attached Noise and Vibration Monitoring Plan (NVMP) details the noise levels predicted as a result of diaphragm walling construction methodology. It identifies a number of controls and mitigation measures to be put in place by the contractor during the construction of the diaphragm walls to ensure that noise limitations identified under NYM/2014/O676/MEIA (specifically condition 20 & 21) continue to be met. There is predicted to be no effect on the findings of the environmental assessment as submitted with the original planning application with regard to noise effects.

These measures include:

- Limiting the number of diaphragm wall cutters and associated bentonite plant desanders and desilters being utilised during evening and night-time working;
- The extension of the bunds/temporary storage areas to the north/northeast of the platform to provide enhanced screening between the residential receptor and the continuing formation of the bunds; and
- The use of localised screening around generators.

The above noise monitoring measures have been incorporated into the final phase 4 scheme.

Application Submission

This NMA application was submitted online via the planning portal on 26 May 2017 under reference PP-06105687 and comprises the following documents:

- This covering letter;
- Completed application form;
- *Phase 4 Works At Woodsmith Mine, North Yorkshire Hydrogeological Risk Assessment* (40-FWS-WS-70-WM-RA-0004);
- *Phase 4 Works At Woodsmith Mine, North Yorkshire Construction And Operation Phase Ground And Surface Water Monitoring Scheme* (40-FWS-WS-70-WM-PL-0008);
- Phase 4 Works At Woodsmith Mine, North Yorkshire Remedial Action Plan (40-FWS-WS-70-PL-0009);
- *Phase 4 Works At Woodsmith Mine, North Yorkshire Groundwater Management Scheme* (40-FWS-WS-70-PL-0010);
- *Phase 4 – Woodsmith Mine Noise and Vibration Management Plan* (40-RHD-WS-70-EN-PL-0017 Rev 0).

The requisite planning application fee of £195 was paid online by credit card on 26 May 2017.

Conclusion

This application seeks a minor revision to the approved construction methodology for the North Yorkshire Polyhalite Project. More specifically it seeks to replace the previously approved grouting and cast concrete wall scheme with more localised diaphragm walls.

The attached hydrogeological and noise assessments confirm that notwithstanding the proposed changes, no supplementary environmental information is required above that already provided in the original ES (as updated) to support the current NMA **and that it does not compromise Sirius' ability to meet the** NYMN/2014/0676/MEIA planning conditions, in particular those relating to noise and hydrogeology.

Whilst there is no statutory definition of what constitutes a NMA, Section 96A, part 2 of the Town and Country Planning Act 1990 (as amended) states that *"In deciding whether a change is material, a local planning authority must have regard to the effect of the change, together with any previous changes made under this section, on the planning permission as originally granted"*, we are confident that the Authority will agree that within the context of the approved scheme, this proposed construction methodology change is minor and one which can be dealt with under the NMA process.

We look forward to receiving notice of your approval of this NMA. In the meantime, should you wish to discuss this or any other matter relating to the North Yorkshire Polyhalite Project, please do not hesitate to contact me.

Yours sincerely

Aisling Kelly
Associate Director

Copy Simon Carter, Sirius Minerals Plc
William Woods, Sirius Minerals Plc