Appendix B Figures

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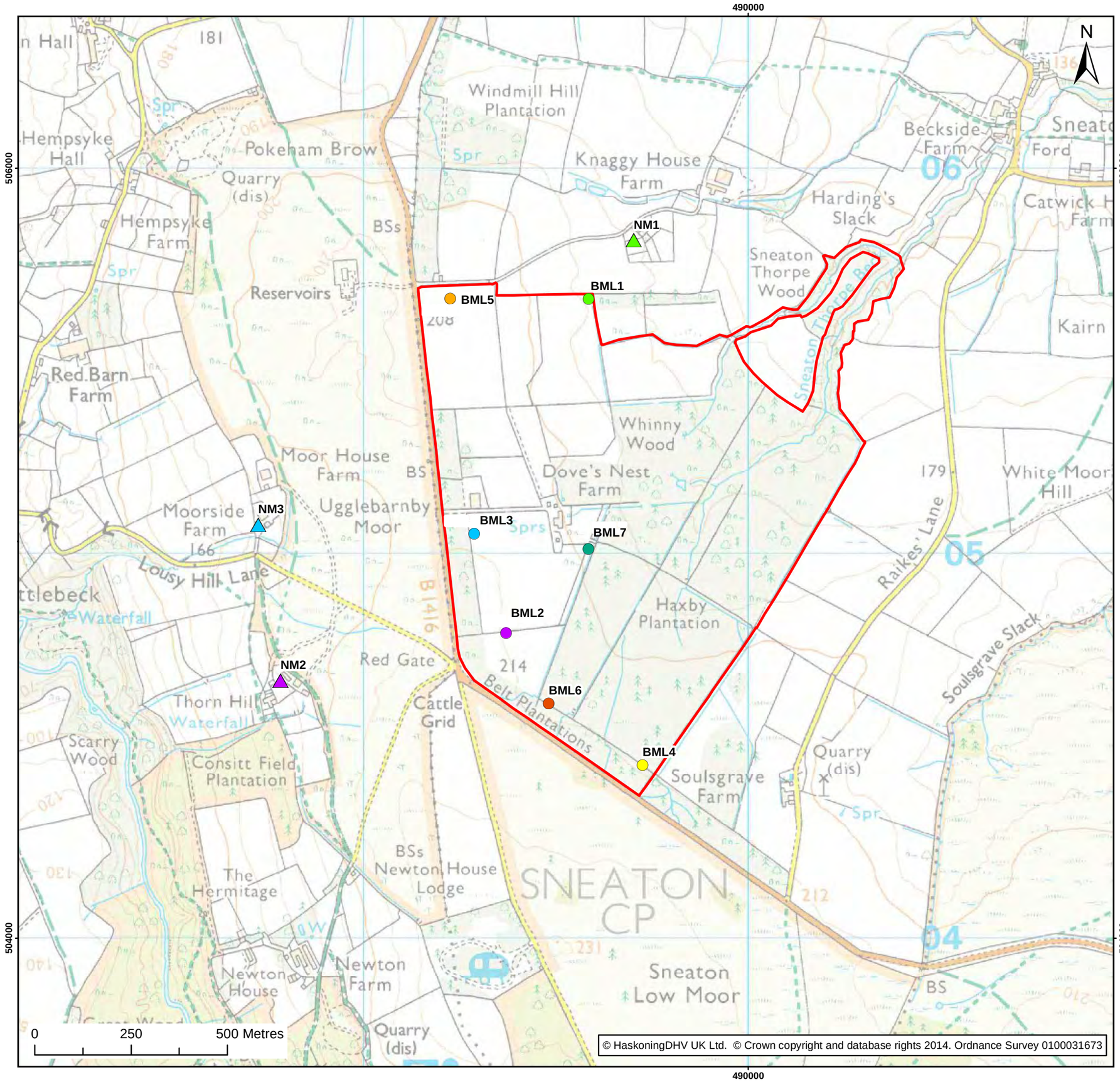

Legend:

Land Ownership Boundary

Receptor Monitoring Locations

- NM1 - Parkdown Bungalow
- NM2 - Thornhill
- NM3 - Moorside Farm

Site Boundary Monitoring Locations

- BML1 - Parkdown Bungalow
- BML2 - Thornhill
- BML3 - Moorside Farm
- BML4 - Soulsgrave Farm/Wainwright Coast to Coast Walk
- BML5 - Lound House
- BML6 - Sneaton Foss/Falling Foss
- BML7 - Between shaft sinking area and BML4

Client:	Project:
Sirius Minerals plc	Sirius North Yorkshire Polyhalite Project

Title: Proposed Residential Receptor and Boundary Noise Monitoring Locations

Appendix:	Figure:	Drawing No:
A	A.1	40-RHD-WS-70-EN-PL-0016-D001

Rev:	Date:	Drawn:	Checked:	Size:	Scale:
A	08/09/2017	DC	AB	A3	1:10,000

Co-ordinate system: British National Grid

Royal HaskoningDHV
Enhancing Society Together

ROYAL HASKONINGDHV
INDUSTRY AND BUILDINGS
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW

Appendix C Predicted Construction and Operation Noise Levels

The predicted noise levels detailed within the tables below are considered to represent the most conservative scenario.

Table C.1 Calculated highest noise levels during Phase 6a – Daytime

Receptor Location	Daytime (07:00–19:00)		
	Limit $L_{Aeq,1hr}$ dB	Maximum Predicted Construction $L_{Aeq,1hr}$ dB	Maximum Predicted Operational $L_{Aeq,1hr}$ dB
Parkdown Bungalow	55	40.4	22.1
Moor House Farm	55	41.2	21.5
Moorside Farm	55	41.6	21.3
Thornhill	55	42.5	23.9
Soulsgrave	55	49.9	30.3
Wainwright Coast to Coast Path	55	44.9	27.7
Sneaton Foss Caravan Park	55	45.0	27.0
Falling Foss Tearooms	55	26.0	4.9
Lound House Caravan Park	55	36.2	16.4

Table C.2 Calculated highest noise levels during Phase 6a – Evening and night time

Receptor Location	Evening and Night-time (19:00–07:00)		
	Limit $L_{Aeq,1hr}$ dB	Maximum Predicted Construction $L_{Aeq,1hr}$ dB	Maximum Predicted Operation $L_{Aeq,1hr}$ dB
Parkdown Bungalow	42	---	21.4
Moor House Farm	42	---	20.7
Moorside Farm	42	---	20.9
Thornhill	42	---	23.0
Soulsgrave	42	---	29.0
Wainwright Coast to Coast Path	42	---	26.9
Sneaton Foss Caravan Park	42	---	26.1
Falling Foss Tearooms	42	---	4.3
Lound House Caravan Park	42	---	15.6

During the past year, visits have been made to the various receptors for equipment maintenance and monitoring purposes. At those receptors to the south and west of the site (particularly Moorside, Thornhill and the Wainwright Coast to Coast Path) it was observed, over a number of visits, that site noise is generally inaudible. Predicted noise levels in the tables above can, therefore, be considered a very conservative case.

Modelling Assumptions

The following equipment and associated sound power levels were used within the SoundPLAN noise models:

LNG Plant Installation
1x Mobile Crane, 110 dB(A) for steel frame erection (daytime only)
1x Mobile Crane, 110 dB(A) for engine deliveries and general lifting (daytime only)
1x HGV Deliveries, 82 dB(A) (daytime only)

LNG Plant Operation
4x GE Jenbacher JGC420GS-N.L B09, 85 dB(A) (continuous operation)
1x HGV Delivery, 82 dB(A) (daytime only)

1x HGV Loading of LNG to storage tanks, 92 dB(A) (daytime only)

Mobile equipment was modelled as a moving point line source with speeds of between 5 and 20 kph.
LNG plant was modelled as an area source, in accordance with drawing reference 40-ARI-WS-7100-CI-18-01020_A_IFR_20181001.

Noise propagation was calculated using the BS 5228:2009+A1:2014 methodology.

REPORT

Phase 6a - Woodsmith Mine Emissions to Atmosphere - NYMNPA-91

Woodsmith Mine Phase 6a – Emissions to Atmosphere

Client: Sirius Minerals PLC

NYMNPA

08/10/2018

Reference: 40-RHD-WS-70-EN-RP-0006 REV 0

Revision: 01/Final

Date: 05 October 2018

Royal HaskoningDHV

Enhancing Society Together

HASKONINGDHV UK LTD.

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Industry & Buildings
VAT registration number: 792428892

Document title:	Phase 6a - Woodsmith Mine Emissions to Atmosphere - NYMNPA-91
Document short title:	Phase 6a Emissions to Atmosphere
Reference:	40-RHD-WS-70-EN-RP-0006 REV 0
Revision:	01/Final
Date:	05 October 2018
Project name:	Sirius North Yorkshire Polyhalite Project
Project number:	PB1110
Author(s):	Charlotte Goodman
Drafted by:	Charlotte Goodman
Checked by:	John Drabble
Date / initials:	03/10/2018
Approved by:	Matthew Hunt
Date / initials:	05/10/2018

Classification
Project related

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Table of Tables

1 Introduction

1.1.1 In 2014 a planning application (reference NYM/2014/0676/MEIA) was submitted to North York Moors National Park Authority (NYMNPA) for permission to develop a polyhalite mine and underground Mineral Transport System (MTS). Planning consent was subsequently granted in 2015, subject to conditions, as varied in February 2018 by NYM/2017/0505/MEIA.

1.1.2 This document has been prepared on behalf of Sirius Minerals plc (Sirius Minerals) and details the requirements with respect to emissions to atmosphere for the Phase 6a Works of the development at Woodsmith Mine (see paragraph 1.1.6 below). This document is required to partially discharge Condition 91 of the NYMNPA planning permission NYM/2017/0505/MEIA and has been prepared in accordance with current good practice. The planning condition states that:

"The final specification and configuration of generators to be employed at Doves Nest Farm and Lady Cross Plantation, such to be fitted with Selective Catalytic Reduction (SCR), or other such emissions control measures as are necessary, will be submitted to the MPA for approval prior to commencement of their use. Results of air dispersion modelling will be submitted at the same time to verify that the identified configuration will lead to nutrient nitrogen and acid deposition at levels no greater than those that were demonstrated in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) as not leading to a significant effect on the integrity of the North York Moors SAC, SPA and SSSI."

1.1.3 This document also relates to the consideration of Condition 50 of the NYMNPA planning permission NYM/2017/0505/MEIA. The planning condition states that:

"In accordance with the details in the document "York Potash Project: Habitats Regulations Assessment" prepared by Amec Foster Wheeler dated June 2015 with document reference 35190CGos064R, diesel generators installed at the Dove's Nest Farm site during the construction period

> *a. shall be fitted with Selective Catalytic Reduction (SCR) abatement technology on their exhausts which shall be shown by the suppliers to achieve a reduction in oxides of nitrogen within the generator exhausts of at least 88% when compared to what would be expected without SCR; and*
>
> *b. shall at all times demonstrably be operated and maintained in a way to ensure a reduction in oxides of nitrogen within the generator exhausts of at least 88% when compared to what would be expected without SCR."*

1.1.4 The specific requirements of Condition NYMNPA-91 are detailed in **Table 1-1**.

Table 1-1 Condition NYMNPA-91 Emissions to Atmosphere

Condition NYMNPA-91	Compliance with Condition NYMNPA-91
The specification and configuration of generators and Selective Catalytic Reduction (SCR) / emission control measures.	Section 2.2 Section 3.2
Confirmation that Phase 6a nutrient nitrogen and acid deposition rates are below those presented in the York Potash Environmental Statement (ES) and Supplementary Environmental Information Report (SEI).	Section 3.1

1.1.5 This assessment considers the Phase 6a Works at Woodsmith Mine in combination with previously discharged Phases that will run concurrently, and does not include any activities at Lady Cross Plantation, as these works are deferred. Updates to this assessment will be prepared for subsequent construction phases and following any design review or method change. The approach adopted in this document was agreed with Natural England and Scarborough Borough Council for previous Phases.

1.1.6 The scope of Phase 6a described by this document comprises the installation and operation of a Liquefied Natural Gas (LNG) plant.

2 Methodology

2.1 Introduction

2.1.1 This assessment considers the impact of nutrient nitrogen and acid deposition from emissions arising from the Phase 6a Works. As required by Condition NYMNPA-91, dispersion modelling was conducted to assess emissions from proposed power generation plant, road traffic and on-site plant (or Non-Road Mobile Machinery (NRMM)) used within Phase 6a. The results are compared to the deposition rates presented within the York Potash Environmental Statement (ES) and Supplementary Environmental Information report (SEI) (Royal HaskoningDHV, 2014 and 2015).

2.2 Phase 6a Emission Calculations

2.2.1 Phase 6a will occur concurrently with Phases 5 and 6, and will be complete prior to the commencement of Phase 7; therefore, the manner of discharge of Conditions for Phase 7 is unaffected. The Phase 6a dispersion modelling therefore included emissions associated with on-site NRMM and traffic movements associated with Phases 5, 6 and 6a, in addition to the operation of the LNG plant.

Model refinements

2.2.2 This assessment was based on the air dispersion modelling assessment presented in the ES and SEI which supported the 2014 planning application. The following input data were retained from the model used in the ES and SEI:

- the receptor locations used for nutrient nitrogen and acid deposition predictions;
- the NOx emission rate from Non-Road Mobile Machinery (NRMM);
- off-site road link emission sources; and
- meteorological dispersion data.

2.2.3 The following input data were replaced or modified to reflect emissions during the proposed Phases 5, 6 and 6a Works:

- use of the most recent ADMS dispersion model (v5.2);
- modified routes on the local road network, as all vehicles will approach the site from the east on the B1416 during Phase 6a;
- the representation of emissions from NRMM as an area source, rather than a line source, to represent the areas on site that plant will be operating during Phase 6a; and
- revision of all generator emissions to reflect those generators proposed to be used in Phase 6a.

Generator emissions

2.2.4 Four Jenbacher 'JGC 420 GS-N.L' generators are proposed, each with a power output of 1.5MWe. The generators will be powered by natural gas (from the LNG supply tanks) and will run in 'emissions optimised' mode, with a NOx concentration of 250mg.Nm^{-3}.

2.2.5 Emission parameters for the Phase 6a generators were based upon power requirements, generator specifications and operating times provided by Sirius Minerals and the engine manufacturers.

2.2.6 It is expected that the 11kV on-site electrical supply will power most of the site operations. The LNG plant will power the higher demand items of plant, such as the winders when material is being extracted from the mine shafts (termed 'mucking out'). When powering the winders, the generators will run at full load for up to 5 minutes during start-up, and then run at lower load whilst the winders are in operation. The generators will be used when the winders are in use, and also to provide power in peak times during winter when it is more economical than drawing power from the grid (known as 'red duos' mode).

2.2.7 A variable emission file was used in the model to represent the expected operation of the generators. It was assumed that the generators would be operating at full load between 16:00 and 20:00 from November to February in 'red duos' mode. In addition, the generators were assumed to operate at 50% load for a full calendar year to represent emissions during winding operations; however, it is expected that the generators would be used for mucking out for up to 8 hours per day. In accordance with Environment Agency guidance[1], the annual mean results were factored by 0.33 to represent the expected hours of operation (number of hours of operation per year = 8 x 365 / number of hours per year (8,760)).

2.2.8 The emission parameters were derived from the generator specification sheet. The inputs to the dispersion model are presented in **Table 2-1**.

Table 2-1 Emission Parameters for Phase 6a Generators

Parameter	Input for Dispersion Model	
	Mucking Out	Red Duos
Number of generators	4	4

[1] Environment Agency (2016) Air Emissions Risk Assessment for your Environmental Permit

Parameter	Input for Dispersion Model	
	Mucking Out	Red Duos
Release height (m)	10m above ground	10m above ground
Stack diameter (m)	0.35	0.35
Engine load (%)	50	100
Volumetric flow rate ($m^3.s^{-1}$)	3.14	5.72
Efflux temperature (°C)	385	360
Oxygen (%) (assumed)	9	9
NOx concentration (at Standard Temperature and Pressure (STP)) ($mg.Nm^{-3}$)	250	250
Calculated NOx Emissions		
NO_X emission rate (g/s)	0.22	0.42

3 Assessment Results

3.1 Comparison of Dispersion Modelling Results

3.1.1 The results of the assessment are presented in **Table 3-1**, which shows the predicted deposition of nutrient nitrogen and acid associated with the Phases 5, 6 and 6a Works, compared to the equivalent value from the ES and SEI.

Table 3-1 Comparison of Nutrient Nitrogen and Acid Deposition

Receptor Ref	Max Modelled Nutrient Nitrogen Deposition Rate $kgN.ha^{-1}.y^{-1}$		Max Modelled Acid Deposition Rate $kEq.ha^{-1}.y^{-1}$		Result
	Phase 6a	ES/SEI	Phase 6a	ES/SEI	
U1	0.08	1.2	0.006	0.1	The predicted deposition of nutrient nitrogen and acid associated with the Phase 6a Works is within the acceptable values presented in the ES/SEI
U2	0.09	1.1	0.006	0.1	
U4	0.06	0.4	0.004	0.029*	

*reported as 0.0 to one decimal place in the ES, but calculated here from the Nutrient Nitrogen deposition rate using the calculator on the Air Pollution Information System website

3.1.2 The results of the assessment show that the predicted Phases 5, 6 and 6a deposition rates for both nutrient nitrogen and acid are significantly lower than those presented in the ES and SEI.

3.2 Consideration of Phase 6a Generator Emission Controls

3.2.1 The maximum power demand considered in the ES and SEI was $20MW_E$, which assumed the use of retro-fitted SCR abatement technology provision on the diesel generators, with exhaust emissions discharged via a 40m high stack. The deposition rates using this configuration were considered to be acceptable.

3.2.2 Since the submission of the ES and SEI, the NYPP has evolved to accommodate alternative (non-diesel) power sources to minimise emissions insofar as practicable. Most on-site power will be provided by the 11kV electrical supply, which produces no emissions to air at the point of use and reduces the power demand required by combustion of diesel fuel. The generators will be powered by natural gas, which is both lower in NOx emissions than diesel fuel, and gives rise to lower emissions of fine particles. In addition, the LNG plant will be located significantly further away from the most sensitive part of the designated site (blanket bog) than the diesel generator farm considered in the ES and SEI (725m south-east as opposed to 225m south-east). Across this increased distance, greater dilution and dispersion of pollutants occurs which results in reduced impact at the receptor.

3.2.3 It is not considered that additional investment in mitigation controls, including retro-fitted SCR abatement technology identified under Condition NYMNPA-50, is necessary, and the total deposition effects are shown to be significantly reduced from the levels presented in the ES and SEI without this provision due to the change in location and investment in technology with improved emissions performance**.**

4 Conclusions/Condition Discharge

4.1.1 This emissions to atmosphere assessment shows that emissions from the Phases 5, 6 and 6a Works will result in significantly lower nutrient nitrogen and acid deposition at the assessed ecological receptors than those values presented in the ES and SEI. Additional mitigation controls, including those detailed in Condition NYMNPA-50, are therefore not required for Phase 6a.

4.1.2 The assessment thereby demonstrates that the requirements of Condition NYMNPA-91 are met, and that Condition NYMNPA-50 is otherwise met.

Sustaining the future.

SIRIUS MINERALS PLC

NYMNPA
08/10/2018

NYMNPA 94 - Construction Method Statement (Phase 6a)

Document Number: 40-SMP-WS-7100-PA-MS-00004

Document Verification					
Revision	**Date**	**Prepared by**	**Checked by**	**Approved by**	**Reason for Issue**
A	02/10/2018	MC			Issued for Review

NYMNPA 94 - Construction Method Statement (Phase 6a)

Contents

Table of Tables

NYMNPA 94 - Construction Method Statement (Phase 6a)

1 Introduction

1.1 The purpose of this document

This document forms the Construction Method Statement (CMS) for the Liquefied Natural Gas (LNG) Storage Facility and Power Generation Unit Works at Woodsmith Mine. The power generation and LNG are collectively referred to as the LNG Facility. This CMS is required to partially discharge condition 94 of the North York Moors National Park Authority (NYMNPA) planning permission NYM/2017/0505/MEIA.

1.2 Compliance with Condition NYMNPA 94

The wording of planning condition 94, and where the necessary material has been provided within the report, is set out in Table 1.

Table 1 : Details of NYMNPA Planning Condition 94

NYMNPA Condition 94	Compliance with Condition 94
Prior to the commencement of each phase of the development at Dove's Nest Farm or Lady Cross Plantation in accordance with the approved Phasing Plan, a Construction Method Statement shall be submitted for that phase, and approved in writing by the MPA, in consultation with the appropriate Highway Authority. Each approved Statement shall be adhered to throughout the construction period. The Statements shall provide for:	This CMS is provided for the Phase 6a Works at Woodsmith Mine only.
(i) The parking of vehicles of site operatives and visitors clear of the highway;	Section 2.1
(ii) Loading and unloading of plant and materials;	Section 2.2
(iii) Storage of plant and materials used in constructing the development;	Section 2.3
(iv) Erection and maintenance of security fencing;	Section 3.1 and Section 3.2
(v) Wheel washing facilities;	Section 2.5
(vi) An outline construction method for sub-surface works including adherence to the 'rack and pillar' method of mining described in the SEI (14th February 2015) and the SRK Subsidence Memorandum (15th May 2013);	Not applicable to Phase 6a.
(vii) Buildings and structures associated with the mine and tunnel shafts;	Section 1.4
(viii) Welfare/office building and security gatehouse;	Section 1.4 and Section 3.4
(ix) Screening bunds;	Not applicable to Phase 6a.
(x) Hardstandings;	Sections 3.1, 3.2 and 3.3
(xi) Shuttle Bus terminal;	Not applicable to Phase 6a.
(xii) Park-and-Ride layby;	Not applicable to Phase 6a.
(xiii) Emergency helipad;	Not applicable to Phase 6a.

NYMNPA Condition 94	Compliance with Condition 94
(xiv) Lighting columns;	Lighting will be installed on 4.5m columns in the LNG compound and adjacent to containers.
(xv) Internal access and haul roads;	Section 3.1 and Section 3.2
(xvi) Domestic wastewater (foul sewage) treatment plant;	Not applicable to Phase 6a
(xvii) Non-domestic wastewater treatment plant and settlement tanks;	Not applicable to Phase 6a.
(xviii) Surface water attenuation ponds, settlement ponds, swales and wetland areas;	Not applicable to Phase 6a.
(xix) Temporary spoil and Polyhalite storage areas;	Not applicable to Phase 6a.
(xx) Road widening and provision of right hand turn areas;	Not applicable to Phase 6a.
(xxi) Removal of any temporary structures; and	Not applicable to Phase 6a.
(xxii) Formation of spoil mounds and the establishment of vegetation on them.	Not applicable to Phase 6a.
The CMS shall contain a construction timetable and order of works noting any construction dependencies, refer to any inherent mitigation measures required to address adverse impacts identified in the EIA and cross refer to the CEMP in relation to any additional avoidance or mitigation measures	Section 3.5

1.3 Compliance with other relevant Planning Conditions

This CMS provides detail, in addition to that required by Condition 94, relating to the partial satisfaction of the following conditions of planning permission NYM/2017/0505/MEIA.

Table 2: Details of NYMNPA Planning Condition 64

NYMNPA Condition 64	Compliance with Condition 64
Prior to the commencement of each Phase of Construction requiring temporary fencing, full details of the proposed temporary boundary treatment to the Dove's Nest Farm site, including any walls or security fences and the timetable to implement them, shall be submitted to and approved in writing by the MPA. The temporary site boundary works shall then be implemented in accordance with the approved details and maintained for the period of construction.	Temporary fencing, 1.8m high, will be required for the LNG Facility. Temporary fencing to LNG Compound will be 2.4m high palisade. Refer to Sections 3.1 and 3.3. Temporary fencing to the LNG Facility is to be the same as the existing 2.4m high Construction Phase 2 security fence. Refer to Section 3.2.

Table 3 : Details of NYMNPA Planning Condition 68

NYMNPA Condition 68	Compliance with Condition 68
Final details of all temporary structures, including samples of materials proposed including colour shall be submitted to and approved by the MPA prior to their construction. The temporary structures as approved shall be implemented in complete accordance with the details agreed. For avoidance of doubt this also includes colours of the generator stacks.	The LNG control room building, electrical infrastructure buildings (Containers, sub-stations, transformers, etc) will have external colour RAL6008. Refer to drawings 40-ARI-WS-7100-CI-18-01024 and 40-ARI-WS-7100-CI-18-01025 for details LNG Tanks, Containers, stacks and control room buildings.

1.4 Scope of Work for LNG Facility

- Installation of 4 power containers with power units, control room and associated parts including gas delivery pipes
- Installation of 2 LNG tanks, pressure regulation, vaporiser and control building
- Service trench for power units and LNG tanks
- Control room buildings for operation of LNG
- Lighting and CCTV columns

2 Construction Logistics Method Statement

2.1 Parking of cars

For Phase 6a, cars will be parked within the designated parking area shown on drawing 40-ARI-WS-7100-CI-18-01024, which has capacity for 58 cars. All visitors to the site will park within the designated car parks or use the park and ride facilities. No parking will be permitted on the public highway.

2.2 Unloading and loading of material

2.2.1 Unloading

The areas for storage have been planned to prevent excessive handling of material and to facilitate loading and unloading.

The principle materials to be delivered and unloaded during Phase 6a comprise:

- Reinforcement for equipment bases using a telehandler;
- Fresh concrete from the site batching plant using conventional concrete trucks;
- 'Site Won' acceptable material from existing stockpiles on site using dumper trucks or articulated hauler vehicles;

- Road construction material using off-site haulage vehicle, including Type 1 aggregate and bituminous surfacing material;
- Topsoil from site stock pile using dump truck or articulated hauler vehicle;
- Security fencing and gate using offsite 7.5 Tonne flat bed vehicle;
- Small electrical equipment using off-site transit van;
- Steel container weighing 4.5 Tonne using off-site 7.5 Tonne flat bed vehicle;
- Electrical infrastructure, including substations, switchrooms and associated cabling and cable support stands.
- Power container transported using flatbed lorries and unloaded by use of conventional road crane.

2.2.2 Loading

Material requiring loading will be fresh concrete for internal site transportation from the batching plant to the working area, and wastes that require disposal off site. Concrete will be discharged directly from the concrete batching plant into conventional concrete trucks.

Other materials requiring loading onto site transport will generally be handled using all terrain fork-lifts or telehandlers. Loading will only take place on level stable ground to minimise the risk of loads becoming unstable and spilling. The handling of materials on site will be controlled to protect land and water in accordance with the Phase 6 Construction Environmental Management Plan 40-RHD-WS-70-EN-PL-0028.

2.3 Storage of Plant and Materials

Plant and materials will be stored in accordance with the approach established for Phase 4a and as set out in the CEMP (ref 40-RHD-WS-70-EN-PL-0031).

2.4 Mobilisation

All equipment will be delivered to site via the consented routes, namely the A171 from Teesside. All HGVs will drive directly into the site and are not permitted to stop/wait on the public highway.

The contractor will utilise the existing welfare arrangement established under Phase 3 and all contractor's personnel will travel to the site in accordance with the most recent Construction Traffic Management Plan that has been submitted as part of Phase 7 (ref. 40-RHD-WS-70-CI-PL-0011).

2.5 Wheel Wash

The site wheel wash will be used in Phase 6a as in previous phases.

2.6 Plant

In addition to site based equipment referred to in Section 2.2, the Phase 6a works will require a mobile 200 Tonne crane with maximum jib height 13m for a duration of one week.

2.7 Personnel

The personnel associated with this methodology on each 12-hour shift are:

Generator Containers

- 1 No Project Manager;
- 1 No Foreman;
- 1 No all-terrain telehandler operator;
- 1 No crane operator
- 1 No 360^{o} excavator operator;
- 1 No dumper driver;
- 3 No general operatives.
- 2 No Fitters

LNG Tanks

- 1 No Project Manager
- 1 No Foreman;
- 1 No all-terrain telehandler operator;
- 1 No crane operator
- 1 No 360^{o} excavator operator;
- 1 No dumper driver;
- 3 No general operatives.

Services Connections

- 1 No Project Manager
- 1 No Foreman;
- 1 No all-terrain telehandler operator;
- 1 No crane operator
- 1 No 360^{o} excavator operator;
- 1 No dumper driver;
- 3 No general operatives.

3 Construction Method Statement

3.1 Construction of the LNG Facility

The construction of the LNG Facility will be in accordance with approved specifications and drawings. Refer to Phase 6a masterplan drawing 40-ARI-WS-7100-CI-18-01000 for location. The civils base for the LNG Facility, drainage and earthworks have been approved under application NYM/2018/0414/CVC and as part of Phase 6a it is proposed to lower the platform levels by circa 1m for screening purposes.

The following method statement outlines the principal construction activities:

1. Earthworks associated with the lowering of the platform will be done in accordance with Section 3.2 of the Phase 6 Construction Method Statement (Ref 40-SMP-WS-7100-PA-MS-00002)

2. Install the containers, transformers and control buildings using a mobile crane.

3. The services will be laid in the required trenches and connected as required.

4. The LNG Tanks, pressure regulation and vaporiser will be installed

5. The pipework between the LNG tanks and Generators will be constructed

6. Site infrastructure will then be provided to connect the LNG Facility to an existing Mains Distribution Unit (MDU) and to the Main Gate Security Office. This will include the provision of underground ducts, including duct trenching and backfilling;

7. Install chain link security fence (2.4m high) and gate using telehandler off-loading from delivery vehicle;

8. Install 240V power cable and equipment cabling for single CCTV, alarm, gas detection and lighting systems,

9. Install, test and commission lighting;

10. Connect CCTV and alarm signal cabling to Main Security Gate Office;

11. Test and commission CCTV and alarm systems

12. Test and commission the gas detection system

3.2 Construction timetable and sequence of work

The Phase 6a Works described in this CMS are scheduled to occur during October to December 2018.The sequence of work is as set out in the scope provided in Section 1.4 of this document.

Town and Country Planning Act 1990
North York Moors National Park Authority

Notice of Decision of Planning Authority on Application for Permission to Carry out Development

To: Sirius Minerals Plc
c/o Lichfields
14 Regent's Wharf
All Saints Street
London
N1 9RL

COPY

The above named Authority being the Planning Authority for the purposes of your application validated 18 July 2017, in respect of proposed development for the purposes of **variation of condition 5 of planning permission NYM/2014/0676/MEIA to allow minor material amendments relating to that part of the development at the Woodsmith Mine site (formerly known as Doves Nest Farm and Haxby Plantation), including; re-design of foreshafts and shaft construction methodology, changes to building layout and shaft access arrangements, revisions to construction and operational shaft platform levels, revisions to location and layout of surface water attenuation ponds, revisions to groundwater management arrangements and amendments to internal access road arrangements** at **Land at Woodsmith Mine (formerly Doves Nest Farm & Haxby Plantation) Sneatonthorpe (minehead); underneath 252 km2 of the NYMNPA (winning & working of minerals); a corridor extending underground from the edge of the NP boundary to Wilton Complex (mineral transport system); Ladycross Plantation near Egton Lockwood Beck Farm near Moorsholm Tocketts Lythe near Guisborough (intermediate shaft sites); site within the eastern limits of the Wilton Complex Teeside (tunnel portal)** has considered your said application and accompanying environmental information and has **granted** permission for the proposed development subject to the following conditions:

Glossary of Terms and Abbreviations

Glossary of Terms and Abbreviations Term	
Preparatory Works	Any of the following: i. trial holes or other operations to establish the ground conditions, site survey work, or works of remediation ii. archaeological investigations iii. any works of demolition or site clearance (but not including soil stripping other than that in iv below) iv. minor soil stripping for the purposes of the creation of the temporary access and lay down areas and preparation of drill pads v. any structural planting or landscaping works vi. ecological or nature conservation works associated with the Development vii. construction of boundary fencing or hoardings viii. construction of access or highway works (including related drainage works) ix. any other works agreed in writing with the Mineral Planning Authority (MPA) as Preparatory Works

Continued/Glossary of Terms and Abbreviations

Mr C M France
Director of Planning

COPY

Date 6 FEB 2018

Decision Approve

Glossary of Terms and Abbreviations (Continued)

Mineral Transport System (MTS)	Means the method of conveyance of excavated mineral from the Mine at Doves Nest Farm (DNF) to the Mineral Handling Facility at Wilton, Teesside, via a sub-surface tunnel on a mechanical conveyor system.
Commencement of Development	Means the commencement of any development pursuant to this permission excluding Preparatory Works.
Date of Production	Means the date at which polyhalite is placed on the conveyor within the MTS on a continuous production basis other than that polyhalite resulting from the construction of the chambers at the base of the shaft which are required to contain equipment and operations needed in support of subsequent ongoing mining operations.
Doves Nest Farm (DNF) site	Means all land shown edged in red on the 'Doves Nest Farm Existing Site Plan'. Ref Drawing No. 653-AP-0002 Rev 2. References to Doves Nest Farm (DNF) shall be taken to refer to Woodsmith Mine and vice versa.
Lady Cross Plantation / LCP Lady Cross Plantation site	Means all land shown edged in red on the 'Lady Cross Plantation Existing Site Plan' Ref Drawing No 653-LC-AP-0201 Rev 2
Permanent Above Ground Structures	Means all above ground structures shown on the 'Doves Nest Farm' Proposed Site and Block Plan' (Drawing No. 653-AP-0005 Rev 4) or the Lady Cross Plantation Proposed Site Plan (Drawing No. 653-LC-AP-0203 Rev 2) but excluding spoil mounds and bunds
Phase of Construction	A package of construction stage development activity, authorised by this permission, the scope and timing of which is to be determined in advance through discussion between the Operator and the MPA, and which forms the basis for the submission by the Operator of further information required by relevant conditions on this permission.
Prior to the Commencement of Operation	Before the Date of Production – defined above.
Mineral Extraction	The below ground working of polyhalite
Mine Development Plan	A document identifying the broad areas of the surface (kilometre grid squares from OS grid) above which mineral extraction is expected to occur in the subsequent 12 months such other basic information as the depth at which Mineral Extraction is to occur and a broad explanation of the techniques of mining so that the public may be aware of the nature of the mining expected from year to year.

Continued/ Glossary of Terms and Abbreviations

Mr C M France
Director of Planning

Date 6 FEB 2018

Decision Approve

Glossary of Terms and Abbreviations (Continued)

Neighbouring Mineral Planning Permission	The area of NYMNPA planning permission R0030043B related to the neighbouring mine. This may be viewed at: http://www.northyorkmoors.org.uk/planning/planning-applications/application-search-map?&inspect_query=appno&inspect_value=R0030043B&drill_down=true&scale=2048&show_layers=appno&hide_layers=Appeals&show_viewfinder=true&x=873794&y=629016
Neighbouring Gasfields	The area of the gasfields subject to DECC Licences PL77 and PEDL120. These may be viewed at https://decc-edu.maps.arcgis.com/apps/webappviewer/index.html?id=29c31fa4b00248418e545d222e57ddaa
Mining Exclusion Zone	An area around RAF Fylingdales in which no mining is permitted as shown on SRK Consulting Drawing U5295 (May 2013). The exclusion zone may change reflecting actual monitoring data about underground mining including if monitoring data indicates the Angle of Draw associated with mining exceeds 60 degrees.
Vibration Sensitive Buildings and Infrastructure	Any building or structure or any service infrastructure such as roads, pipes, cables, mains etc at which vibration above the levels referred to in conditions 29 and 30 might cause damage to the fabric of buildings or structures or might adversely affect the utility of the building eg if it is an office, the ability for it to be used as such.
Operator	Any party relying on this planning permission to undertake the development approved by this planning permission.
Angle of Draw	The angle between a vertical line drawn upward to the surface from the edge of underground workings and a diagonal line drawn from the edge of underground workings to the closest point at the surface at which there is no subsidence caused by the underground workings.

Abbreviations

AOD	Above Ordnance Datum
MOD	Ministry of Defence
MPA	Mineral Planning Authority
NYM	North York Moors
NPA	National Park Authority
NVMP	Noise and Vibration Management Plan
SBC EHO	Scarborough Borough Council Environmental Health Officer

Continued/Explanatory Conditions

Mr C M France
Director of Planning

Date 6 FEB 2018

TOWN AND COUNTRY PLANNING ACT 1990 COPY

Continuation of Decision No. NYM/2017/0505/MEIA

Explanatory Conditions

1.	The development hereby permitted shall be commenced prior to the 19 October 2018. **Reason:** To comply with the requirements of Section 91 (as amended) of the Town and Country Planning Act 1990
2.	The permission hereby granted authorises the winning and working of the polyhalite form of Potash mineral and trace minerals intermingled with the polyhalite only, the construction of the mine and ancillary development at Doves Nest Farm and the construction of the Mineral Transport System within the National Park including the construction of the Intermediate shaft at Lady Cross Plantation. The winning and working of mineral shall cease after the expiry of a period of 103 years from the date of this permission. **Reason:** To comply with the requirements of Schedule 5 to the Town and Country Planning Act 1990 and to accord with NYM Core Policy A & E.
3.	The Mineral Planning Authority (MPA) shall be notified in writing in advance of the date of Commencement of Development and not less than 21 days in advance of the Date of Production. **Reason:** To enable the MPA to monitor compliance with the conditions of the planning permission and to accord with the provisions of NYM Core Policy E.
4.	Prior to the commencement of each Phase of Construction a plan shall be submitted to and agreed by the MPA setting out the proposed development and any associated temporary operations during that phase. The phasing plan shall be adhered to at all times. **Reason:** In the interests of amenity, highway safety and in accordance with NYM Development Policy 1.
5.	The development hereby permitted shall be carried out in complete accordance with the approved plans set out in Schedule 1 attached to this permission. **Reason:** For the avoidance of doubt and to accord with the provisions of NYM Core Policy A.

Continued/Explanatory Conditions

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Mr C M France
Director of Planning

Date 16 FEB 2018

TOWN AND COUNTRY PLANNING ACT 1990

Continuation of Decision No. NYM/2017/0505/MEIA

Explanatory Conditions (Continued)

6.	Unless otherwise required by other conditions attached to this planning permission, or otherwise agreed by the MPA in schemes related to the discharge of such other conditions, the Key Mitigation Measures described in the mitigation tables presented in Part 2 Section 17 and Part 3 Section 18 in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant, save for those relating to development outside of the administrative area of the North York Moors National Park Authority, shall be implemented as part of the development hereby approved unless agreed previously in writing by the MPA. **Reason:** To ensure the satisfactory implementation of mitigation measures identified in the Environmental Statement and to ensure compliance with NYM Core Policies A and B and Development Policies 1, 3, 7 and 23.
7.	No polyhalite shall be transported by road from the Doves Nest Farm site or the Lady Cross Plantation site other than during a period of eight months during the sinking of the Doves Nest Farm shaft and before the commissioning of the MTS. During this period polyhalite may only be removed from the Doves Nest Farm site in covered vehicles. Records of the quantity of polyhalite produced during the whole period of construction and operation of the mine and of the means of its transportation from DNF shall be maintained and made available to the MPA on request and no more than 13 million tonnes of polyhalite shall be produced at the mine during any period of twelve consecutive months (a rolling twelve month period). Each year on the anniversary of the Date of Production a report of the quantities of polyhalite produced in each month of the previous five years shall be submitted by the mine Operator to the MPA. **Reason:** To limit the effects of the project on the local roads system, environment, population and businesses. To ensure that the development here permitted complies with the information submitted with the planning application. In order to comply with NYM Core Policy A and Development Policy 1.
8.	No Mineral Extraction shall take place within the areas cross-hatched blue as the 'Villages excluded from Mine Plan' on 'Mine and MTS Planning Boundary' Drawing submitted with the application. Drawing ref Y5154-0102M-CJD1- Revision 2. **Reason:** For the avoidance of doubt and to accord with the provisions of NYM Core Policy A.

Continued/Explanatory Conditions

Mr C M France
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Date 6 FEB 2018

Decision:Approve

Explanatory Conditions (Continued)

9.	One year from the commencement of production, a plan shall be submitted to the MPA detailing the area that has been worked in the preceding year. Such a plan shall be prepared and submitted every subsequent year for as long as production continues. **Reason:** For the avoidance of doubt and to accord with the provisions of NYM Core Policy A.
10.	The Lady Cross Plantation Shaft constructed to provide access in emergency and for maintenance/ repair purposes shall be used for these purposes only following completion of the construction and the bringing into use of the MTS. **Reason:** For the avoidance of doubt and to comply with NYM Core Policy A.

Subsidence

11.	There shall be no Mineral Extraction within the Coastal Buffer until a scheme of extraction has been submitted to and approved by the MPA to demonstrate that there will be no increase in the rate of coastal erosion or increase in flood risk. The Coastal Buffer will be 1.5km (measured on a horizontal plane) of the Mean Low Water Mark as shown on OS Mastermap Topography or any other distance the MPA may determine based on the results of monitoring in the Subsidence Monitoring Strategy. The scheme shall include monitoring and remedial measures. Thereafter any extraction within the Coastal Buffer shall only be undertaken in accordance with the approved Coastal Buffer extraction scheme. **Reason:** To prevent an increase in flood risk or the rate of coastal erosion and to accord with the provisions of NYM Development Policy 1.
12.	Notification shall be given to the MPA before Mineral Extraction consented by this planning permission takes place within 1.5 km measured on a horizontal plane, or any other distance the MPA may determine based on the results of monitoring in the Subsidence Monitoring Strategy, of a boundary of: i. Neighbouring Mineral Planning Permission ii. Neighbouring Gasfields Prior to Mineral Extraction consented by this planning permission occurring within 1.5km (measured on a horizontal plane), or any other distance the MPA may determine based on the results of monitoring in the Subsidence Monitoring Strategy, of the boundaries of either of the above a scheme of monitoring and remedial measures shall be submitted to the MPA for approval. For the avoidance of doubt this condition does not apply to works associated with the construction of the MTS tunnel.

Continued/Explanatory Conditions 12

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Date 6 FEB 2018

Exploratory Condition 12 (Continued)

	Reason: To ensure managed extraction of all workable minerals in the area and to accord with NYM Core Policy E.
13.	An annual Mine Development Plan, including areas likely to be mined within the forthcoming year, shall to be submitted to the MPA together with any updates on monitoring and remedial measures. The first shall be submitted Prior to the Commencement of Operation. **Reason:** For the avoidance of doubt and for MPA to monitor the progress of the development in accordance with the provisions of NYM Core Policy A.
14.	Detailed schemes for monitoring and reporting of subsidence associated with mining operations which might affect RAF Fylingdales shall be submitted to and approved in writing by the MPA in consultation with the Ministry of Defence (MOD) and the Environment Agency in advance of the commencement of any significant new underground developments such as the construction of shafts and tunnels or new underground chambers or the commencement of Mineral Extraction in new areas or directions. The first such approved scheme shall be implemented before the commencement of shaft sinking. **Reason:** To protect the assets at RAF Fylingdales for National Defence purposes and in the interests of public amenity and to accord with the provisions of NYM Development Policy 1 and to inform the consideration of methods of extraction and mitigate the impacts of subsidence on; flood risk, water resources, coastal erosion, ecology and heritage assets.
15.	No Mineral Extraction shall commence until a Subsidence Monitoring Strategy (SMS) to identify subsidence caused by the mine workings here approved has been submitted to and approved in writing by the MPA. The Strategy shall include: • Monitoring locations which shall include any affected watercourses, floodplains, flood defences, gauging station, source protection zones, and the coastal zone; • A methodology for monitoring; • Details of any infrastructure needed to facilitate monitoring; • A timetable for implementing the monitoring strategy, including the construction of any monitoring infrastructure. The approved Subsidence Monitoring Strategy shall thereafter be implemented, with the results and an explanatory report submitted to the Mineral Planning Authority no less frequently than once every quarter. If the subsidence monitoring detects that subsidence has occurred, the Mineral Planning Authority shall be notified. If the level of subsidence is such that it might cause such damage to buildings, infrastructure, drainage or flood defences that might compromise their function any Mineral

Continued/Explanatory Conditions 15

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Date .....

Explanatory Conditions 15 (Continued)

	Extraction within 1.5 km of the subsidence measured on a horizontal plane shall cease as soon as possible and within no more than one month of the monitoring taking place. No more than 8 weeks after subsidence is detected a Subsidence Remediation Strategy shall be submitted to and approved in writing by the Mineral Planning Authority. The Subsidence Remediation Strategy shall include: • A comprehensive investigation into the extent of subsidence which has occurred; • An assessment of the impacts the subsidence has caused; • Measures to mitigate the subsidence impacts identified; • Proposals to revise the Mineral Extraction methodology to ensure no further subsidence occurs; • Proposals for more detailed subsidence monitoring in the area affected by subsidence. Mineral Extraction ceased further to this condition shall only recommence if it can be proven that subsidence was not caused by the mining operations here approved or: • Once the remedial measures set out in the approved Subsidence Remediation Strategy have been implemented; • In accordance with the revised extraction methodology set out in the approved Subsidence Remediation Strategy; • Subject to the detailed subsidence monitoring set out in the approved Subsidence Remediation Strategy. **Reason:** To ensure that Mineral Extraction ceases if potentially damaging subsidence is being caused and to fully accord with NYM Development Policy 1. To ensure resultant effects are fully investigated and mitigated.
16.	If any subsidence is identified within the Mining Exclusion Zone as shown on SRK Consulting Drawing U5295 (May 2013) then the MPA and the MOD shall be notified as soon as possible and within no more than one month of the date of identification. If the subsidence is within 1.5km (measured on a horizontal plane) of areas of active Mineral Extraction then the extraction in those areas shall cease until the cause is identified. If subsidence is proven to be as a consequence of the Operator's mine workings then a subsidence remediation scheme shall be submitted in writing for approval by the MPA, in consultation and agreement with the MOD, no more than 8 weeks after the subsidence was identified. The subsidence remediation scheme shall be implemented as approved before extraction recommences in those areas. **Reason:** To protect the assets at RAF Fylingdales for National Defence purposes and in the interests of public amenity and to accord with the provisions of NYM Development Policy 1.

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Explanatory Conditions (Continued)

17.	No Mineral Extraction shall take place within the Mining Exclusion Zone as shown on SRK Consulting Drawing U5295 (May 2013). Notification shall be made to the MPA and the MOD when workings are within 1.5Km (measured on a horizontal plane) of the Mining Exclusion Zone. The Mining Exclusion Zone shall be increased accordingly if the Angle of Draw is demonstrated to be greater than 60 degrees. **Reason:** To protect the assets at RAF Fylingdales for National Defence purposes and in the interests of public amenity and to accord with the provisions of NYM Development Policy 1.

Noise

18.	Prior to the commencement of each Phase of Construction at Dove's Nest Farm or Lady Cross Plantation, a Noise and Vibration Management Plan (NVMP) for the control, mitigation and monitoring of noise and vibration for both construction and operational phases at the two sites shall be submitted to and approved in writing by the MPA in consultation with the SBC EHO. The scheme shall set out the following: • Noise-sensitive receptors for which predictions shall be made and at which the noise and vibration limits shall apply and which shall include recreational receptors. • Predicted noise levels at the noise-sensitive receptors from noise and vibration generated at the DNF and LCP sites for the key construction phases during the forthcoming year including any periods in which the higher daytime limit of 70 dB L_{Aeq} shall apply (permitted 56 days for temporary works to create noise-reducing bunds and/or barriers as per Conditions 20 and 22). • The best practicable means which will be used to control noise and vibration levels on site including such measures proposed in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant. Such measures shall include, but are not limited to: the use of the quietest available plant, equipment and techniques; the regular maintenance and inspection of such plant and equipment; the use of cladding, attenuators and barriers to reduce noise levels from noisy plant and operations; the specification of appropriate reversing alarms to minimise annoyance; and, measures to reduce vibration and air overpressure during blasting.

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Explanatory Conditions 18 (Continued)

- Details of the noise and vibration monitoring system to be installed around the DNF and LCP sites to continuously log noise levels during construction and operation. The NVMP shall recommend the number and location of noise monitors installed around the boundaries of the Dove's Nest Farm and Lady Cross Plantation sites during different phases of construction and operation and shall include at least four monitors at key residential receptors near the Dove's Nest site and at least three monitors at key residential receptors near the Lady Cross Plantation site. The precise number and location of noise monitors shall be set out in the NVMP. The developer shall use reasonable endeavours to obtain access to the residential receptor properties for the installation of noise monitors and only if access cannot be obtained the number or location of noise monitors may be reduced. The MPA and the SBC EHO and/or their advisers shall be granted access to inspect the noise and vibration data whenever required, records of the data should be kept for a reasonable period and these records should be accessible by the public.

- Details of the procedure to be followed in the event that the noise predictions detailed in the NVMP or the noise limits detailed in conditions 20 to 23 are exceeded. Such procedures shall require the investigation of the reasons for the breach of the limits and the cessation of the activity causing the breach until such a time as additional mitigation can be provided.

- Details of how the residents will be informed and consulted about the site operations and progress, particularly in regard to blasting and especially noisy operations including details of complaints logging and management procedures and a 24-hour telephone incident hotline. Details of the procedure for investigating complaints and informing complainants of the results of such investigations and of any actions resulting from them.

- The NVMP shall be adhered to at all times unless agreed previously in writing by the MPA.

The NVMP shall be updated and agreed whenever appropriate to reflect changes in the programme during construction and operation and at intervals not less than 6 months after the initial start on site and thereafter annually.

Reason:

In the interests of amenity and to accord with the provisions of NYM Development Policy 1.

Continued/Explanatory Conditions

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Explanatory Conditions (Continued)

19.	Mobile earth-moving plant shall not be used between the hours of 19.00 to 07.00 unless otherwise agreed in advance with the MPA in consultation with the SBC EHO and any such operations shall accord with the Noise and Vibration Management Plan and other planning conditions relating to noise. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.
20.	Day-time (07.00 hrs to 19.00 hrs) noise levels $L_{Aeq\ 1hr}$ from mine construction at the Dove's Nest site, excluding blasting operations, shall not exceed 55 dB $L_{Aeq\ 1hr}$ and for short-term, construction activities solely relating to the demolition of existing buildings and erection of new structures excluding earth mound and bunds shall not exceed 65dB $L_{Aeq\ 1hr}$. An upper limit of 70 dB $L_{Aeq\ 1hr}$ for the purposes of temporary noisy operations to provide noise-reducing earth bunds and / or barriers may be permitted for up to 56 days in any calendar year provided such temporary operations are specified and agreed in the NVMP described in Condition 18. Each calendar day when the higher temporary noise level is exceeded shall be counted as one day. Noise levels shall be measured in accordance with BS 4142: 2014 and the limits apply at the curtilage boundary of residential properties and at the following recreational receptors: Falling Foss tea room, Lound House Camp / Caravan site, Sneaton Foss Lane Caravan site and at any location on the Wainwright Coast to Coast walk footpath as illustrated in drawing number PB1110-P2-7-002 which is Figure 7.2 of Part 2 of the York Potash Project Mine, MTS and MHF Environmental Statement dated September 2014. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.
21.	Evening (19.00 hrs to 22.00 hrs) and night-time (22.00 to 07.00 hrs) noise levels $L_{Aeq\ 1hr}$ from mine construction at the Dove's Nest site, excluding blasting operations, shall not exceed 42 dB $L_{Aeq\ 1hr}$. Noise levels shall be measured in accordance with BS 4142: 2014 and the limits apply at the curtilage boundary of residential properties and at the following recreational receptors: Lound House Camp / Caravan site and Sneaton Caravan site. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.

Continued/Explanatory Conditions

Mr C M France
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Explanatory Conditions (Continued)

22.	Day-time (07.00 hrs to 19.00 hrs) noise levels $L_{Aeq\ 1hr}$ from mine construction at the Lady Cross Plantation site, excluding blasting operations, shall not exceed 55 dB $L_{Aeq\ 1hr}$ and for short-term, construction activities solely relating to the demolition of existing buildings and erection of new structures excluding earth mound and bunds shall not exceed 65dB $L_{Aeq\ 1hr}$. An upper limit of 70 dB $L_{Aeq\ 1hr}$ for the purposes of temporary noisy operations to provide noise-reducing earth bunds and / or barriers may be permitted for up to 56 days in any calendar year provided such temporary operations are specified and agreed in the NVMP described in Condition 18. Each calendar day when the higher temporary noise level is exceeded shall be counted as one day. Noise levels shall be measured in accordance with BS 4142: 2014 and shall apply at the curtilage boundary of residential properties and at the following recreational receptors: on the open access land to the north and east of the site at OS Grid Reference locations 816084 and 819077. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.
23.	Evening (19.00 hrs to 22.00 hrs) and night-time (22.00 to 07.00 hrs) noise levels $L_{Aeq\ 1hr}$ from mine construction at the Lady Cross Plantation site, excluding blasting operations, shall not exceed 42 dB $L_{Aeq\ 1hr}$. Noise levels shall be measured in accordance with BS4142: 2014 and the limits apply at the curtilage boundary of residential properties. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.
24.	Noise levels (air overpressure) from blasting shall not exceed 115dB (linear peak) as measured at any residential properties. No blasting shall take place outside the period 0700 until 2200 unless agreed in advance in writing by the MPA and it can be demonstrated that there will be no significant adverse noise effect on residents. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1

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Explanatory Conditions (Continued)

25.	Noise levels from either Doves Nest Farm or Lady Cross Plantation, during the operational phase, shall not exceed 42 dB L_{Ar} during the daytime (07.00 to 19.00 hours) and 28 dB L_{Ar} during the evening and night (19.00 to 07.00 hours). In addition, noise from fixed plant and equipment, including fans and winding gear, shall not exceed 25 dB L_{Ar} at any time. Noise levels are to be rated and assessed at the curtilage boundary of residential properties according to BS 4142: 2014. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1 and to ensure that noise levels from mechanical plant are controlled in line with predictions in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) (Part 2, Table 8.9 and Part 3, Table 8.65) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant.

Vibration

26.	Vibration from construction work on site and during operation (but excluding blasting) shall not exceed 0.3mm/s (PPV) at any residential property at any time. **Reason:** In the interests of amenity and to accord with the provisions of NYM Development Policy 1.
27.	Day time (07.00 hrs to 19.00 hrs) ground vibration as a result of underground chamber construction or blasting operations involved in shaft sinking shall not exceed a peak particle velocity of 6 mm/sec in 95% of all blasts measured over any period of 6 months and no individual blast shall exceed a peak particle velocity of 10 mm/s as measured at vibration sensitive buildings. Evening (19.00 to 22.00 hrs) ground vibration as a result of underground chamber construction or blasting operations involved in shaft sinking shall not exceed a peak particle velocity of 4.5 mm/sec in 95% of all blasts measured over any period of 6 months and no individual blast shall exceed a peak particle velocity of 6 mm/s as measured at Vibration Sensitive Buildings and Infrastructure. **Reason:** In the interests of public amenity and to accord with the provisions of NYM Development Policy 1.

Continued/Explanatory Conditions

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Explanatory Conditions (Continued)

28.	Night time (22:00 hrs to 07.00 hrs) ground vibration from construction/blasting shall not exceed a peak particle velocity of 2 mm/s in 95% of blasts at residential properties and no individual blast shall exceed a peak particle velocity of 3 mm/s as measured at Vibration Sensitive Buildings and Infrastructure. **Reason:** In the interests of public amenity and to accord with the provisions of NYM Development Policy 1.
29.	Prior to the commencement of any blasting operations associated with shaft sinking or chamber construction, a scheme for the monitoring of blasting vibration within 1 kilometre of the site shall be submitted to the MPA for approval. Blast monitoring shall take place in accordance with the approved scheme and the results forwarded to the MPA on a quarterly basis until the completion of those blasting operations. **Reason:** In the interests of public amenity and to accord with the provisions of NYM Development Policy 1.
30.	A Blasting and Vibration Management Plan for RAF Fylingdales shall be submitted to the MPA for approval in consultation with the MOD, prior to the commencement of activities with the potential to give rise to significant vibration arising from any underground works. Measures should include: • Details of the specific actions that will be taken if the level of vibration at RAF Fylingdales due to the permitted development exceeds 0.023 mm/s; • Details of the specific actions that will be taken if the stated vibration criteria are exceeded; • Technical changes to mining methods if the vibration levels in planning conditions are exceeded; and • Communication of information to affected parties. The development shall thereafter be carried out in accordance with the approved Blasting and Vibration Management Plan. **Reason:** To protect National Defence interests by ensuring that management planning relating to adverse vibration is in place so that corrective action can be implemented without delay to provide for the proper control of blasting impacts and to accord with the provisions of NYM Development Policy 1.

Continued/Explanatory Conditions

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TOWN AND COUNTRY PLANNING ACT 1990

Continuation of Decision No. NYM/2017/0505/MEIA

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Explanatory Conditions (Continued)

31.	Vibration monitoring equipment shall be installed, maintained and operated on or adjacent to RAF Fylingdales prior to the commencement of blasting, in accordance with the Blasting and Vibration Management Plan detailed plans of which shall be submitted to and approved by the MPA. **Reason:** To protect National Defence interests by ensuring that vibration levels are not detrimental to the operational activities at RAF Fylingdales and to accord with the provisions of NYM Development Policy 1.
32.	Ground vibration from construction/blasting shall not exceed a peak particle velocity of 0.025 mm/s in 95% of blasts as measured at RAF Fylingdales unless otherwise agreed in writing with the MPA in consultation and agreement with the MOD. **Reason:** To protect National Defence interests by ensuring that vibration levels are not detrimental to the operational activities at RAF Fylingdales and to accord with the provisions of NYM Development Policy 1.
33.	A scheme for prior notification of blasting for any of the chamber creations and shaft sinking shall be submitted to the MPA for approval prior to the shaft chamber sinking phase of the development. Such a scheme shall involve the regular provision of a schedule of proposed blasts. The notification shall include the following: Location of the blast site; Approximate times of blasting; and Details of any warnings to be given prior to blasting. Blasting operations shall be carried out in accordance with the blasting schedule. Any changes to the schedule arising through exceptional circumstances must be notified in writing with the MPA. **Reason:** To protect the amenity of adjoining landowners/occupiers of nearby properties, and to accord with the provisions of NYM Development Policy 1.

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Transport

34.	Prior to the commencement of each Phase of Construction a Construction Traffic Management Plan (CTMP), based upon the submitted Framework Construction Traffic Management Plan dated February 2015 shall be submitted to, and approved in writing by the MPA in consultation with the appropriate Highway Authority. The approved Construction Traffic Management Plan shall be adhered to throughout the construction period unless otherwise agreed in writing with the MPA. The CTMP shall provide for: • The appointment of a CTMP co-ordinator; • Measures to control the number of employees travelling individually to the sites and their mode of travel; • The Traffic Management Liaison Group agreed level of HGV trips to the site; • Measures to identify HGVs associated with the development travelling to the construction sites; • The links to the Traffic Management Liaison Group; • Signing for HGV routes including prohibitive signing; • Accident record monitoring; • Driver training; • A communications plan; • A complaints mechanism ; • An incident reporting mechanism including near misses; and • A penalty system for breaches of the agreed CTMP. **Reason:** To minimise the impact of HGV and employee trips and in the interests of highway safety and to accord with the provisions of NYM Development Policy 23.
35.	Prior to the Date of Production an Operational Travel Plan, based upon the submitted Framework Travel Plan dated August 2014, shall be submitted to and approved in writing by the MPA in consultation with the Highway Authority. Once approved it shall be implemented in full and all actions undertaken within the timescales indicated. This shall include the provision of the Park and Ride access to the DNF site and any infrastructure necessary to deliver the Park and Ride service. **Reason:** To minimise the number of operational phase car based vehicle trips to the Minehead site and in the interests of highway safety and to accord with the provisions of NYM Development Policy 23.

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TOWN AND COUNTRY PLANNING ACT 1990

Continuation of Decision No. NYM/2017/0505/MEIA

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Explanatory Conditions (Continued)

36.	Prior to the Date of Production an Operational Delivery Management Plan shall be submitted to, and approved in writing by, the MPA in consultation with the appropriate Highway Authority. The approved Operational Delivery Management Plan shall be adhered to unless otherwise agreed in writing with the MPA. **Reason:** To minimise the impact of HGV trips and in the interests of highway safety and to accord with the provisions of NYM Development Policy 23.
37.	Prior to any off-site highways works requiring a TRO, details of the following Traffic Regulation Orders (TROs) shall have been submitted to and approved in writing by the MPA in consultation with the Highway Authority: • A "clearway" order along the B1416 in the vicinity of the Doves Nest Farm access and secondary construction access; • Temporary speed limits during construction; and • TROs related to the proposed off site highway works. The approved details shall, at the applicant's expense, undergo the legal process required. Subject to the successful completion of this legal process the measures will be implemented at the applicant's cost according to a timetable to be approved in writing by the MPA in consultation with the Highway Authority. **Reason:** In accordance with policy Development Policy 23 and in the interests of highways safety and the general amenity of the area.
38.	The helicopter pad hereby permitted shall only be used for helicopter trips for emergency purposes or in training for emergencies and for no other use other than as may be agreed in writing with the MPA. **Reason:** To minimise the number of aircraft trips to and from the Doves Nest Farm site; in the interests of public amenity and to accord with the provisions of NYM Core Policy A.

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