Report ID: INCA 2022-11

Green Lithium Refining Limited

Habitats Regulations Assessment

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March 2023

INCA
Industry Nature Conservation Association

Introduction

This document has been prepared by INCA on behalf of Sol Environment Ltd in connection with a planning application for Green Lithium Refining Limited, located on land at Teesport, Kinkerdale Road Site. It provides information to inform Stage 1 Screening and Stage 2 Appropriate Assessment of a Habitats Regulations Assessment (HRA). It has been prepared to inform the 'competent authority', Redcar and Cleveland Borough Council (RCBC) about the implications of the proposed development on nearby internationally important sites, as required under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (hereafter referred to as the 'Habitats Regulations'). The report has been prepared in accordance with the Habitats Regulations.

The application site (the Site) is shown in Figure 1. The Site occupies an area of approximately 25ha and currently forms part of the PD Ports, industrial, storage and logistics park at Teesport. The area is relatively flat, approximately 5m AOD, and with various drainage features nearby connecting to the River Tees. Approximately two thirds of the Site is hardstanding which contains an office block and is otherwise used for storage. The remainder is a mixture of undeveloped former industrial land and some semi-natural habitat in the form of long, unmanaged grassland.

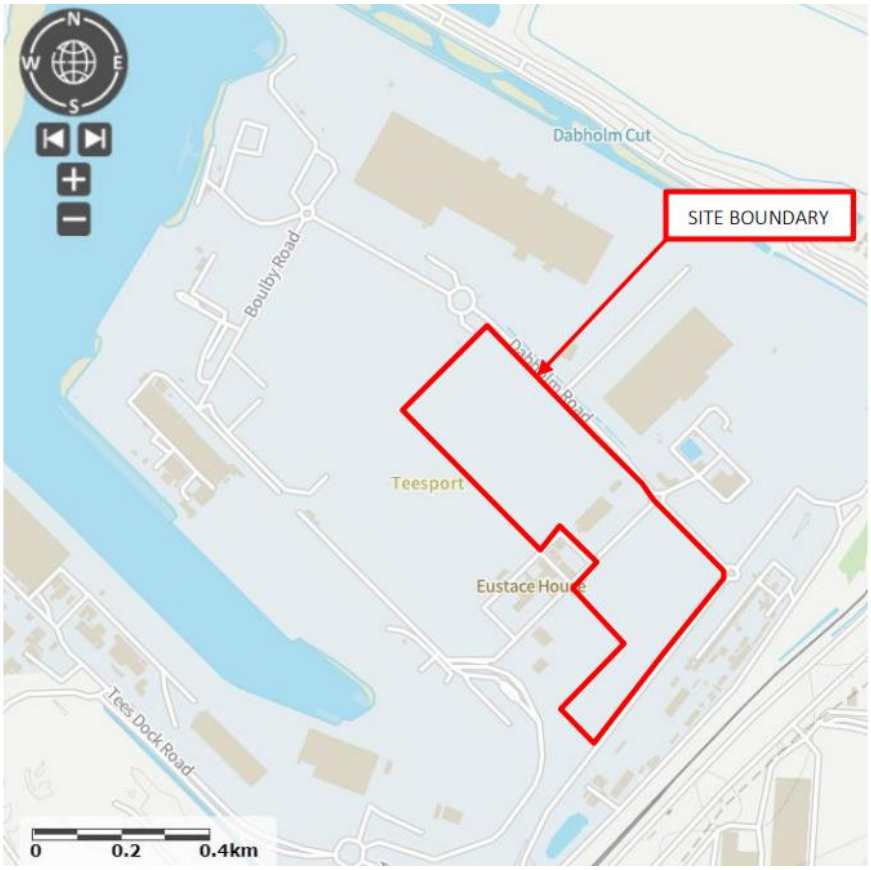

Figure 1. Site location (map supplied by Sol Environment Ltd)

Internationally Designated Sites

Environment Agency guidance requires that the impacts of emissions to air should be considered for internationally designated sites within a 10km radius. Two internationally designated sites are at least in part within 10km of the site: Teesmouth and Cleveland Coast SPA and Teesmouth and Cleveland Coast Ramsar.

The closest parts of the Teesmouth and Cleveland Coast SPA to the site are the inlet of the River Tees at Teesport and intertidal mudflats at Dabholm Gut, both approximately 500m west and north respectively from the Site. The closest part of the Teesmouth and Cleveland Coast Ramsar are North Tees Mudflats and Seal Sands both approximately 2.5km west and north-west respectively from the Site.

These two internationally designated Sites are described below.

Teesmouth and Cleveland Coast SPA

The Teesmouth and Cleveland Coast Special Protection Area (SPA) was first classified in 1995 for its numbers of European importance of breeding Little Tern *Sternula albifrons,* passage Sandwich Tern *Thalasseus sandvicensis*, wintering Red Knot *Calidris canutus* and passage Common Redshank *Tringa totanus,* as well as an assemblage of over 20,000 waterbirds. Extensions to the Teesmouth and Cleveland Coast SPA were formally classified on 16 January 2020. The SPA is now considered to be 12,210.62ha in size and includes additional areas of coastal and wetland habitats important for waterbirds.

Natural England has extended the SPA to include marine foraging areas for breeding Little Tern and breeding and foraging areas for Common Tern, the latter being a new qualifying feature in the light of recent increases in the size of the breeding population within the SPA. The extension also includes additional areas of terrestrial habitats such as wet grassland, saltmarsh, deep and shallow pools and intertidal areas important for other foraging and roosting waterbirds which were existing features of the SPA. Non-breeding Ruff *Calidris pugnax* and breeding Pied Avocet *Recurvirostra avosetta* have also been classified as new qualifying features of the SPA.

The boundary of the SPA extension covers an area from Castle Eden Denemouth in the north to Marske-by-the Sea in the south and includes the River Tees up to the Tees Barrage. The seaward boundary has been drawn to include waters out to around 3.5km from Crimdon Dene, to include the areas of greatest importance to the Little Terns at that colony, and out to around 6km offshore further south to include the areas of greatest importance to the common terns at the Saltholme colony.

Teesmouth and Cleveland Coast Ramsar

The Teesmouth and Cleveland Coast Ramsar boundary has also been extended to include the additional terrestrial wet grassland, saltmarsh, deep and shallow pools and intertidal areas for breeding and non-breeding waterbirds, as for the SPA. Historically the Teesmouth SPA and Ramsar boundaries have been virtually coterminous and their interest features very similar. However, the Ramsar extension only covers the terrestrial extension areas of the SPA down to Mean Low Water. Although not a qualifying feature, the Ramsar site citation recognises that the site supports a rich assemblage of invertebrates, including the following seven Red Data Book species: *Pherbellia grisescens, Thereva valida, Longitarsus nigerrimus, Dryops nitidulus, Macroplea mutica, Philonthus dimidiatipennis* and *Trichohydnobius suturalis.*

The qualifying features for the Teesmouth and Cleveland Coast SPA/Ramsar are given in Table 1. The number of birds in the Ramsar assemblage is greater than for the SPA as it includes Mute Swan *Cygnus olor* and Greylag Goose *Anser anser,* both of which are resident all year, while the SPA only protects migratory and wintering waterbirds along with Annex I species. As the Ramsar is to a very large extent a sub-set of the SPA the term SPA as it relates to the Teesmouth and Cleveland Coast is taken to refer to both unless otherwise stated.

Internationally designated sites are underpinned by Sites of Special Scientific Interest (SSSI) with SSSIs being divided into management units. In this case the relevant SSSI is Teesmouth and Cleveland Coast. The closest management unit to the application site is Unit 7, River Tees for which there is currently "no identified condition threat" according to Natural England. Common Terns use these reaches of the tidal River Tees for foraging in the summer months, while Redshank and Curlew *Numenius arquata* feed and roost on the intertidal margins during the non-breeding season.

Table 1. Qualifying features for Teesmouth and Cleveland Coast SPA/ Ramsar

Feature	Count (period)	% of Population	Interest type	Selection Criteria	New feature (Y/N)
Sandwich Tern *Thalasseus sandvicensis*	1,900 individuals (1988-1992	4.3% GB, 1.3% Western Europe/Western Africa	Annex 1 (non-breeding)	Stage 1.1 (SPA), Criterion 6 (Ramsar)	N
Little Tern *Sternula albifrons*	81 pairs (2010-2014)	4.3% GB	Annex 1 (breeding)	Stage 1.1	N
Common Tern *Sterna hirundo*	399 pairs ((2010-2014)	4.0% GB	Annex 1 (breeding)	Stage 1.1	Y
Pied Avocet *Recurvirostra avosetta*	18 pairs (2010-2014)	1.2% GB	Annex 1 (breeding)	Stage 1.1	Y
Ruff *Calidris pugnax*	19 individuals (2011/12-2015/16)	2.4% GB	Annex 1 (non-breeding)	Stage 1.1	Y
Red Knot *Calidris canutus*	5,509 individuals (1991/92-1995/96)	1.6% NE Canada/Greenland / Iceland/UK population	Migratory (winter)	Stage 1.2 (SPA), Criterion 6 (Ramsar)	N
Common Redshank *Tringa totanus*	1,648 individuals (1987-1991)	1.1% East Atlantic population	Migratory (passage)	Stage 1.2 (SPA), Criterion 6 (Ramsar)	N
Feature	Count (period)	Average number of individuals		Selection Criteria	
Waterbird assemblage	2011/12-2015/16	26,014 individuals (SPA assemblage), 26,786 individuals (Ramsar assemblage)		Stage1.3 (SPA), Criterion 5 (Ramsar)	

Stage 1. Potential for Likely Significant Effect

The first stage of a Habitats Regulations Assessment involves screening to ascertain if any aspects of the project are likely to have a significant effect on internationally designated sites in terms of the conservation objectives of the sites. The conservation objectives of the four internationally designated sites under consideration are the same in broad terms, being to maintain or restore:

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site."

Effects on internationally designated sites can be direct through such impacts as land take or damage, or indirect by, for example, increased disturbance. The significance of an effect depends on the sensitivity of the interest feature that might be affected.

Table 1 considers a range of effects which could potentially impact on the conservation objectives of the SPA. Those which have no potential for adverse effect are screened out of further assessment.

Table 1. Screening for likely significant effect.

Potential source of LSE	**Assessment**	**Screened in (Y/N)**
Loss of designated site habitat	The Site is outside of any designated site	N
Loss of availability of functional land to birds	The Site is located within a very active industrial area. The habitats on the Site, principally long, unmanaged grassland are unlikely to support any of the bird species for which the European sites are designated.	N
Disturbance of birds by noise or visual disturbance from construction or operations	The application site is 500m from the closest part of the SPA that supports significant numbers of waterbirds (ie Dabholm Gut) and is screened from it by warehouses.	N
Changes to flight lines or sight lines for waterbirds	As no supporting habitat known to harbour SPA waterbirds exists in the hinterland of the development site, it follows that there will be no impact upon established flight lines.	N

Emissions to air from construction activities	There is the potential for dust and particulates to be created without suitable mitigation measures	Y
Emissions to air from operational activities	The operational phase of development will generate emissions to air in the form of NOx and nitrogen deposition.	Y

Stage 2. Appropriate Assessment

Stage 2 of a Habitats Regulations Assessment entails an assessment of the potential for adverse effect on site integrity, either alone or in combination with other plans and projects. The assessment covers those issues which were not ruled out at Stage 1 screening and considers both the likelihood of the effect impacting on the conservation objectives of the European sites and the significance of any such impacts. It takes into account mitigation measures in assessing both likelihood and significance.

The two issues that require further assessment both relate to emissions to air. An Air Quality Assessment (AQA) has been produced for Sol Environment Ltd by Entran Ltd, to support the application. The AQA assesses the impacts of airborne pollutants emitted during the operation phase on various receptors including designated nature conservation sites. The conclusions of those assessments for internationally designated sites are summarised below. Reference should be made to the AQA for supporting details.

<u>Emissions to air from construction activities</u>

It is anticipated that there will be some emissions to air from construction works, in the form of dust. However these will be relatively minor compared to the consented remediation operations that are currently taking place on the former steelworks site, which in some cases are closer to the SPA than is the Site. Those consented remediation operations have been the subject of a Habitats Regulations Assessment in their own right, which concluded no adverse effect on site integrity therefore construction works on the Site are also unlikely to have an adverse effect on site integrity. In addition, there are several active employment zones between the Site and the SPA and measures will be put in place to limit the effects of dust on human health in those employment zones, which would likewise limit any potential effects on the SPA. Therefore, it can be concluded that there would be no adverse effect on site integrity from emissions to air during construction.

<u>Emissions to air from operational activities</u>

Section 7.118 of the AQA compares the predicted environmental concentrations of NOx (24 hour mean and annual) and nitrogen deposition that would occur on 35 locations on the SPA. At nine of those locations the predicted environmental concentration (PEC) has been classed as potentially significant on the SPA. Eight of those locations are within a 2km radius of the site with the ninth (location E6) being approximately 2.5km to the north.

Table 2 shows the type of habitat present at each of the nine locations where a potentially significant effect has been identified. (NB the habitats listed in Table 2 differ from their equivalents

in the AQA. This is because the AQA uses the closest approximation based on the Air Pollution Information System website, which does not list all of the specific habitats that are present in these 35 locations). With the exception of E6 Bran Sands Lagoon, these are either the intertidal stretch of the River Tees or intertidal mudflats. Bran Sands Lagoon is a saline lagoon, which is connected to the River Tees by a pipe thereby allowing some intertidal exchange.

The interest feature of the SPA which is associated with the River Tees is Common Tern, which uses the river to forage for fish. An increase in NOx at the level predicted in the AQA would not be expected to affect the fish stocks therefore would not have an adverse impact on the interest feature of Common Tern.

The interest features of Dabholm Gut are the assemblage of wintering waterbirds and passage Common Redshank, both of which feed on invertebrates in the mudflats. While an increase in nutrients has been identified as a potential adverse impact on the intertidal mudflats at Seal Sands (locations E10 and E11) due to it promoting the growth of *Enteromorpha* algae, this is not the case in Dabholm Gut, where the existing high nutrient status is likely to be key to maintaining the food chain on which the SPA birds feed.

Bran Sands lagoon is used principally as a resting location at high tide for those SPA birds that feed on Dabholm Gut at low tide, though other elements of the wintering waterbird assemblage also occur there and some of the duck species forage in the Lagoon on fish and invertebrates. Again, none of these interactions are expected to be affected by the predicted increase in NOx.

Based on the information provided in the AQA, it can therefore be concluded that there would be no adverse effect on site integrity from emissions to air during operational activities.

Table 2. Locations where a potentially significant effect has been identified in the AQA.

Code	Location	Habitat	Potentially significant effect
E6	Bran Sands	Intertidal mudflat	Annual mean NOx
E21	River Tees - main channel	River (tidal)	Annual mean NOx
E22	Bran Sands lagoon	Saline Lagoon	Annual mean NOx; 24 hr NOx
E23	River Tees - main channel	River (tidal)	Annual mean NOx; 24 hr NOx
E25	River Tees – Tees Dock	River (tidal)	Annual mean NOx; 24 hr NOx
E26	River Tees - TeesDock	River (tidal)	Annual mean NOx; 24 hr NOx
E33	Dabholm Gut	Intertidal mudflat	Annual mean NOx; 24 hr NOx; nitrogen deposition
E34	Dabholm Gut	Intertidal mudflat	Annual mean NOx; 24 hr NOx; nitrogen deposition
E35	Dabholm Gut	Intertidal mudflat	Annual mean NOx; 24 hr NOx

In combination assessment

This in-combination assessment considers other planned or permitted developments located within 2km of both the Site and the SPA. It assesses their potential to impact on air quality in combination with the operational phase of this development.

The following permitted developments have been identified:

i) Application reference R/2020/0357/OOM. “Outline planning application for demolition of existing structures on site and the development of up to 418,000 sqm (gross) of general industry (use B2) and storage or distribution facilities (use class B8) with office accommodation (use class B1), HGV and car parking and associated infrastructure.” This is located on land approximately 2km to the west of the site. The AQA for this development concludes, “There are no significant effects predicted as a result of the operational phase of the proposed development, therefore no air quality mitigation measures are required.”

ii) Application reference R/2019/0427/FFM. “Demolition of structures and engineering operations associated with ground preparation and temporary storage of soils and its final use in the remediation and preparation of land for regeneration and development.” This application covers the area known as Dorman Point which is 1.5km south-west of the site at its nearest point. The application did not require an air quality assessment and the permission itself only deals with demolition and remediation so there would not be any long-term air quality issues.

iii) Application reference R/2019/0767/OOM. “Outline application for the construction of an energy recovery facility (ERF) and associated development.” The location for this application is approximately 2km to the south-west of the Site. The Habitats Regulations Assessment for this application concluded that air pollution it is not expected to cause an adverse impact on breeding and foraging bird species associated with the SPA. Therefore there would be no in-combination effects from this source.

iv) Application reference R/2020/0819/ESM. “Outline planning application for development of up to 139,353SQM (Gross) of general industry (Ude Class B2) and storage or distribution facilities (use Class B8) with office accommodation (use Class E), HGV and car parking, works to watercourse including realignment and associated infrastructure works (all matters reserved)” This application was for a proposed Dimethyl Ether production plant which would be located approximately 1.5km to the south-west of the Site. The air quality assessment for this application concluded that for both NO_x and NH_3 the predicted levels would be 1.5% of the critical level. However, for both substances, the background levels are well below the critical levels. Furthermore, the only part of the Teesmouth and Cleveland Coast SPA which would be subject to >1% of the critical level would be a small area of the River Tees, which consists of open water that is considered unlikely to be sensitive to either NO_x or NH_3. Therefore, the Habitats Regulations Assessment for this application concluded that there would be no adverse effect on the integrity of the SPA. As NOx and nitrogen emissions from this application and the one currently being assessed in this HRA would both occur on a part of the SPA that is of low sensitivity to those emissions, then no in-combination effects are anticipated.

Conclusion

On the basis of the narrative set out under Stage 2 above, it is concluded that the proposed development will not cause adverse effect to the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar site, either alone or in combination with other plans or projects.