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WASTE RESOURCE MANAGEMENT



**E.ON UK HEAT LTD**

**SONOCO ENERGY CENTRE**

**HABITATS RISK ASSESSMENT**

**APRIL 2021**

**DATE ISSUED:** APRIL 2021  
**JOB NUMBER:** ST18142  
**REPORT NUMBER:** 8.5  
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**E.ON UK HEAT LTD**

**SONOCO ENERGY CENTRE**

**HABITATS RISK ASSESSMENT**

**APRIL 2021**

**PREPARED BY:**

A Cook Associate Director



**REVIEWED & APPROVED BY:**

L Prazsky Service Director – Waste  
Resource Management



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<b>DRAWINGS</b>	<b>TITLE</b>	<b>SCALE</b>
ST18142-100 Rev B	Site Location	1:1250

## **1 INTRODUCTION**

- 1.1.1 E.ON UK Heat Ltd are applying for an environmental permit for a new Energy Centre at Stainland, Halifax. This will comprise a natural gas engine, to generate electricity and a combined waste heat/natural gas fired boiler, to produce steam for the adjacent board mill.
- 1.1.2 The site location is shown on drawing ST18142-100 Rev B. The Energy Centre will be situated within the board mill site and will be accessed from Dog Lane.
- 1.1.3 This report details the protected habitats that are within the vicinity of the site, the potential impact that any harmful emissions from the installation may cause, and the measures are in place to control these potential impacts.
- 1.1.4 In accordance with Environment Agency guidance the report considers European sites within 10km of the medium combustion plant and Sites of Special Scientific Interest (SSSI), Local Nature Reserves, Biodiversity Action Plan (BAP) sites and areas of Ancient Woodland within 2km of the site. It is important that controls are in place to ensure that operational activities at the Energy Centre do not impact or cause any damage to any of these protected sites. These sites are detailed in section 2.
- 1.1.5 Potential risks resulting from operations at the site and mitigation measures are detailed in Section 3.
- 1.1.6 Air quality modelling has been completed which shows that there will be no significant impact on sensitive ecological receptors. Other possible impacts from the site have also been considered and it is concluded that there will be on significant impact on any protected habitat.

## **2 PROTECTED HABITATS**

2.1.1 The protected habitats that lie within the relevant screening distance from the MCP are described in this section.

2.1.2 There is one recorded SAC/SPA within 10km of the site. The South Pennine Moors SAC and SPA lies approximately 5km from the site.

2.1.3 The SAC comprises an important area of European dry heath, blanket bogs and old sessile oak woods. These habitats are likely to include bryophyte communities amongst the higher plants and may therefore be particularly susceptible to damage by air pollution.

2.1.4 The South Pennine Moors are also designated as a SPA as they provide an important habitat for a number of protected bird species. These include peregrine falcon, merlin, golden plover, short eared owl and dunlin.

### ***Ancient Woodland***

2.1.5 There are nine areas of Ancient woodland within the vicinity of the site. Again these have the potential to contain sensitive lichens, bryophytes and higher plants.

### ***Priority Species***

2.1.6 In addition to the protected habitats, a number of BAP priority species are present within 10km of the site. These include:

- Curlew;
- Lapwing;
- Snipe; and
- Redshank.

### **3 POTENTIAL RISKS AND MITIGATION MEASURES**

3.1.1 The Sonoco Energy Centre will generate electricity and steam via a natural gas engine and natural gas fired boiler, providing energy to the adjacent papermill.

3.1.2 Protected habitats within the vicinity of the site may be affected by emissions to air, noise or contaminated run-off.

#### **Emissions to Air**

3.1.3 The facility will produce emissions to air which may be toxic or which could lead to nutrient nitrogen deposition or acid deposition.

3.1.4 Emissions from the stacks may contain nitrogen oxides, which can cause deposition of nutrient nitrogen. The deposition of nutrient nitrogen has the potential to fertilise soils allowing common species of plant to out compete rarer species that often thrive in low nutrient conditions.

3.1.5 Emissions of nitrogen oxide can also form acid when dissolving into rainwater. This may contribute to acid deposition or “acid rain”, which can damage plant populations.

3.1.6 To mitigate these effects, the CHP will utilise a low NO<sub>x</sub> burner. The combustion processes will be carefully controlled to minimise emissions. The equipment to be installed is guaranteed to meet the requirements of the Medium Combustion Plant Directive and comply with statutory emission standards which limit emissions of NO<sub>x</sub> from combustion processes.

3.1.7 The boiler and CHP will be properly maintained and will be monitored on a regular basis to ensure that they continue to comply.

3.1.8 Exhaust gas will be vented to atmosphere via 20m stacks. Air quality modelling has demonstrated that this will provide adequate dispersion and that the predicted environmental concentrations will be well within the critical levels for air quality and within the critical loads for nutrient deposition and acid deposition. As a result, there will be no impact on protected habitats. Further detail is given below and the full report accompanies the application.

3.1.9 The critical levels and critical loads for different habitats provide a standard at which air pollutants may be present without causing long term harmful effects.

3.1.10 The Air Quality Report showed that for all locations within the SAC/SPA the process contribution was less than 10% of the short term critical level and less than 1% of the long term critical level. The emissions can therefore be classed as insignificant. The highest result recorded for any area of Ancient Woodland was within Whittle Wood where the process contribution reached 28.58% of the short term critical level and 9.28% of the critical level. This is well within the requirement for Ancient Woodland, where the PC must be less than 100% of the limit.

3.1.11 Air pollution can be deposited on soils as particulates or dissolved in rain. The model therefore also considered nutrient nitrogen deposition and acid deposition as a result of stacks emissions from the MCP. It was demonstrated that in all cases the predicted environmental concentration would be well within the critical load.

3.1.12 The full results are included in the Air Quality Report which forms part of the permit application.

#### **Contaminated Run-off**

3.1.13 Contaminated run-off can cause two different impacts on surface waters:

- Toxic contamination – where toxic compounds reach the environment and directly poison plants or animals, causing illness or death; and
- Eutrophication - when excessive nutrients become available in a water body because of substances in run-off, resulting in a sudden excessive growth of micro-organisms which drain the available oxygen supply. This may stress or kill higher organisms such as fish, due to depleted dissolved oxygen levels in the water.

3.1.14 The site will be constructed with impermeable concrete surfacing. This will prevent any contaminated run-off from draining into the ground surface or accessing a nearby water body.

3.1.15 Oils and other potentially harmful fluids, which may be used for plant maintenance, will be stored in a sealed tank or container with secondary containment. Smaller containers may be stored on a drip tray. Any larger tanks will be bunded, with the bund providing 110% of the capacity of the tank.

3.1.16 Suitable absorbents will be provided for use in the event of a spill or leak. Any spillage will be cleared immediately and placed into a container ready for disposal at a permitted site.

## Noise

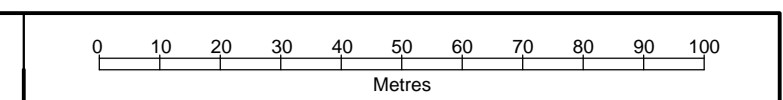
- 3.1.17 Emissions of noise may affect feeding or nesting birds within close proximity of the site. BAP priority bird species are detailed in Section 2.4.
- 3.1.18 It is noted that the CHP and boiler will replace existing plant and this is not a new industrial development. All machinery will be subject to planned preventative maintenance, minimising the potential for excessive noise to be produced.
- 3.1.19 The gas engine and boiler will be located within a building, which will provide noise attenuation. Doors will be kept closed as far as possible, to prevent the escape of any noise.
- 3.1.20 External items such stacks and intakes will be designed to minimise the generation of noise.
- 3.1.21 The plant will operate 24 hours a day and noise levels should therefore be fairly steady and constant. There should be no sudden or unusual noise which might frighten nearby wildlife.
- 3.1.22 A noise assessment has been undertaken for a residential receptor around 160m from the CHP. The assessment found that there are moderate background levels of noise and that specific noise from the new CHP and boiler would be below the background level at this receptor. It is therefore unlikely that the new plant will cause any disturbance to local habitats as there is unlikely to be a significant change in noise levels.



## **4 CONCLUSION**

- 4.1.1 There are a number of protected habitats within proximity of the site. These include SAC, SPA, SSSIs, LNRs and ancient woodlands.
- 4.1.2 This document demonstrates that the facility will not cause any adverse impact on these protected habitats, given the measures that are in place to control emissions from the site. Emissions have been modelled to demonstrate compliance with the relevant critical levels and critical loads.
- 4.1.3 E.ON UK Heat Ltd will operate the facility under an Environmental Management System. The procedures that will be in place will ensure that site operations are properly managed and maintained to prevent or, where that is not possible, minimise emissions. All plant will be properly maintained.
- 4.1.4 Periodic monitoring will be carried out to demonstrate that emissions continue to be compliant with all statutory requirements.
- 4.1.5 Any liquids used on site will be stored in appropriate containers with secondary containment and spillages will be cleared as soon as possible should they occur.
- 4.1.6 A noise assessment has been completed and plant will be properly managed and maintained to minimise noise from the site and any disturbance of local residents and wildlife.

## DRAWINGS



**KEY:**  
 — SITE BOUNDARY  
 — OWNERSHIP BOUNDARY

B	SITE BOUNDARY AMENDED	16/04/21	SRB	CB	CB
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A	FOR PLANNING	12/01/21	DR	CB	CB
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REVISION	DETAILS	DATE	DESIGN	DRAWN	APPROVED
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CLIENT  
**Sonoco Cores and Paper Ltd**

PROJECT  
**Sonoco Alcore CHP  
 Stainland, Halifax**

DRAWING TITLE  
**Site Location Plan**

DRG No.	ST18142-100	REV	B
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DRG SIZE	A1	SCALE	1:1250	DATE	DEC 2020
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DRAWN BY	SRB	CHECKED BY	CB	APPROVED BY	CB
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■ STONE ON TRENT TEL 01782 276700  
 WWW.WARDELL-ARMSTRONG.COM  
 BIRMINGHAM  GLASGOW  
 BOLTON  LEEDS  
 CARDIFF  LONDON  
 CARLISLE  MANCHESTER  
 EDINBURGH  NEWCASTLE UPON TYNE

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**STOKE-ON-TRENT**

Sir Henry Doulton House  
Forge Lane  
Etruria  
Stoke-on-Trent  
ST1 5BD  
Tel: +44 (0)1782 276 700

**BIRMINGHAM**

Two Devon Way  
Longbridge Technology Park  
Longbridge  
Birmingham  
B31 2TS  
Tel: +44 (0)121 580 0909

**BOLTON**

41-50 Futura Park  
Aspinall Way  
Middlebrook  
Bolton  
BL6 6SU  
Tel: +44 (0)1204 227 227

**BURY ST EDMUNDS**

6 Brunel Business Court  
Eastern Way  
Bury St Edmunds  
Suffolk  
IP32 7AJ  
Tel: +44 (0)1284 765 210

**CARDIFF**

Tudor House  
16 Cathedral Road  
Cardiff  
CF11 9LJ  
Tel: +44 (0)292 072 9191

**CARLISLE**

Marconi Road  
Burgh Road Industrial  
Estate Carlisle  
Cumbria  
CA2 7NA  
Tel: +44 (0)1228 550 575

**EDINBURGH**

Great Michael House  
14 Links Place  
Edinburgh  
EH6 7EZ  
Tel: +44 (0)131 555 3311

**GLASGOW**

2 West Regent Street  
Glasgow  
G2 1RW  
Tel: +44 (0)141 433 7210

**LEEDS**

36 Park Row  
Leeds  
LS1 5JL  
Tel: +44 (0)113 831 5533

**LONDON**

Third Floor  
46 Chancery Lane  
London  
WC2A 1JE  
Tel: +44 (0)207 242 3243

**NEWCASTLE UPON TYNE**

City Quadrant  
11 Waterloo Square  
Newcastle upon Tyne  
NE1 4DP  
Tel: +44 (0)191 232 0943

**SHEFFORD**

PI House  
R/O 23 Clifton Road  
Shefford  
Bedfordshire  
SG17 5AF  
Tel: +44 (0)1462 850 483

**TRURO**

Baldhu House  
Wheal Jane Earth Science Park  
Baldhu  
Truro  
TR3 6EH  
Tel: +44 (0)187 256 0738

**International offices:**

**ALMATY**

29/6 Satpaev Avenue Regency  
Hotel  
Office Tower  
Almaty  
Kazakhstan  
050040  
Tel: +7(727) 334 1310

**MOSCOW**

21/5 Kuznetskiy Most St.  
Moscow  
Russia  
Tel: +7(495) 626 07 67