Recycling and recovery UK

Sidegate Lane

Battery Recycling Facility

1.6 Climate Change Risk Assessment

June 2025

DOCUMENT DETAILS

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DOCUMENT REVIEW HISTORY

Date	Description	Summary of Changes
March 2024	Version 1.0	Original Document
June 2025	Version 2.0	Updated to new template for permit variation to add battery recycling facility

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APPENDICES

1 Climate Change Risk Assessment

1.1.1 This climate change risk assessment (CCRA) has been prepared for Sidegate Lane Waste Battery Recycling Facility using the EA risk assessment example for adapting to climate change for the hazardous, non-hazardous and inert waste treatment sectors.

1.1.2 The site is permitted to operate as an Open Windrow Composting (OWC) facility and a Transfer Station (TS) facility, although the OWC activity is not currently operated. The permit will be varied to allow the operation of a battery recycling facility including treatment of lithium-ion batteries and lithium-ion battery materials, and storage and transfer of batteries of other chemistries and fluorescent tubes. The site will retain the ability to operate as a OWC and TS activities, however the site will operate solely as a battery recycling facility. This CCRA considers the Battery Recycling facility only, but will be revised if other activities resume.

1.1.3 Risk assessment definitions and the risk estimation matrix are presented in Appendix A.

1.1.4 The climate change risk assessment is presented in Appendix B.

Appendix A - Risk Scoring Definitions and Matrix

Risk Scoring Definitions

Severity of Impact	Definition
Severe	short-term, acute impact to operations resulting in permanent compliance breach(es)
Medium	short-term, acute impact to operations resulting in multiple temporary compliance breaches
Mild	short-term, acute impact to operations resulting in single temporary compliance breach
Minor	short or long-term impact resulting in additional measures for compliance

Likelihood	Definition
Highly likely	Event appears very likely in the short term and almost inevitable over the long term, or there is evidence of the event already happening
Likely	It is probable that an event will occur, or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
Low likelihood	Circumstances are such that an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
Unlikely	Circumstances are such that it is improbable the event would occur even in the long term

Risk Scoring Matrix

Risk score: This is the likelihood of something happening multiplied by the severity of its impact.

Risk Scoring Matrix				
Likelihood	**Impact**			
	Severe (score = 4)	**Medium (score = 3)**	**Mild (score = 2)**	**Minor (score = 1)**
Highly Likely (score = 4)	16	12	8	4
Likely (score = 3)	12	9	6	3
Low Likelihood (score = 2)	8	6	4	2
Unlikely (score = 1)	4	3	2	1

Where the residual **risk category** is:

12 to 16 = High

8 to 9 = Moderate to High

4 to 6 = Moderate to Low

1 to 3 = Low

Appendix B – Climate Change Risk Assessment

Potential Climate Change Variable	Possible Impacts	Potential Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
Summer daily maximum temperature	Potential for increased waste reactions or fires involving heat sensitive or combustible waste, including batteries	Review storage of heat sensitive wastes, frequency of thermal imaging checks on batteries and/or Fire Prevention Plan measures and implement any necessary changes	Low	Medium	Moderate to Low
	Potential for fire from overheating electrical equipment	Review heat rating of equipment used on site and make any reasonable adjustments, as needed Provide shaded or cooled areas for plant and equipment	Low	Medium	Moderate to Low
	Potential increase in expansion and stress on equipment, and UV degradation of plastic pipes and hoses	Regular planned preventative maintenance and checks on site equipment Route pipework out of direct sunlight Provide shaded or cooled areas for plant and equipment	Low	Minor	Low
	Potential increased dust emissions	If increased dust emissions are observed, install/ increase use of dust suppression measures Implement Dust Management Plan, if necessary or requested by Environment Agency	Low	Medium	Moderate to Low
	Potential for drought and loss of water supply	Review contingency plans and implement any identified necessary measures Explore options for water harvesting and retention and consider implementing, if practicable	Low	Medium	Moderate to Low

Potential Climate Change Variable	Possible Impacts	Potential Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
	Potential increased risk of pests and scavengers	Waste types highly unlikely to attract pests as putrescible wastes are not accepted If pests become an issue, increase scrutiny during waste acceptance process If necessary due to the detection of pests, regular pest control visits will be carried out	Unlikely	Medium	Low
	Potential increased risk of wildfires affecting the site	Review measures in the Fire Prevention Plan and implement any necessary improvements identified If necessary, implement fire breaks around the site boundary	Unlikely	Medium	Low
Winter daily maximum temperature	Slightly higher winter maximums could increase risk of odour complaints and pest infestations	Waste types highly unlikely to cause odour or attract pests as putrescible wastes are not accepted If odour or pests become an issue, increase scrutiny during waste acceptance process If necessary due to the detection of pests, regular pest control visits will be carried out	Unlikely	Medium	Low
	Lower winter temperatures could result in an increased risk of pipes (or similar) freezing	Continue regular planned preventative maintenance and checks on site equipment Increase pipe lagging and insulation, if necessary	Low	Medium	Moderate to Low
	Lower winter temperatures could reduce the performance of effluent treatment plant (ETP)	Site does not have ETP.	N/A	N/A	N/A

Potential Climate Change Variable	Possible Impacts	Potential Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
Daily extreme rainfall	Potential for increased site surface water and flooding	The site is in Flood Zone 1. However EA Habitats Screening indicates Flood Zone 1 and 2 areas within 1km. SUEZ has not experience problem flooding on the site. If flooding is identified as a risk, a site-specific flood plan will be prepared	Low	Medium	Moderate to Low
	Potential for drainage systems and interceptors to be overwhelmed	Inspection and maintenance of drainage systems If flooding identified as problematic, prepare site-specific flood plan. Review the capacity of drainage systems and consider making practicable upgrades, as necessary	Low	Medium	Moderate to Low
	Potential for increased incidents involving water-reactive wastes	Store reactive wastes in appropriate buildings and containers	Low	Medium	Moderate to Low
Average winter rainfall	Potential for increased site surface water and flooding	Site is in Flood Zone 1 (low risk). If flooding identified as a risk, prepare site-specific flood plan.	Low	Medium	Moderate to Low
	Potential for drainage systems and interceptors to be overwhelmed	Inspection and maintenance of drainage systems Review the capacity of drainage systems and consider making practicable upgrades, as necessary	Low	Medium	Moderate to Low
	Potential for increased incidents involving water-reactive wastes	Store reactive wastes in appropriate buildings and containers	Low	Medium	Moderate to Low

Potential Climate Change Variable	Possible Impacts	Potential Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
Sea level rise	If a site is located near the coast there is potential increased risk of flooding and corrosion	Not applicable due to distance from coast (>80km)	N/A	N/A	N/A
	There could be localised issues with surface water discharge leading to backing up and worsening site flooding	Inspection and maintenance of drainage systems Review the capacity of drainage systems and consider making practicable upgrades, as necessary If flooding identified as problematic, prepare site-specific flood plan.	Unlikely	Medium	Low
Drier summers	Long periods of hot and dry weather could lead to a drought and may have an impact on water supplies for: • emergency water usage • cooling systems • fire fighting • processes that require water as input for example aggregate and soil washing plants, dust suppression etc	Review current water usage and implement identified opportunities for minimisation, as needed. Explore options for water harvesting and retention and consider implementing, if practicable Review alternative measures for dust and fire suppression, implement Dust Management Plan / review FPP, as necessary	Low	Medium	Moderate to Low
	Potential increased impact of discharge to watercourse from on-site drainage systems where connected to water courses	N/A – surface water system does not discharge to watercourse	N/A	N/A	N/A

Potential Climate Change Variable	Possible Impacts	Potential Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
More variance in river flow	Increased impact from on-site drainage systems or effluent treatment plants where they are connected to watercourses	N/A – surface water system does not discharge to watercourse	N/A	N/A	N/A
Storms	Potential for high winds to damage buildings and infrastructure and blow waste from the site	Frequent inspection of site infrastructure. Maintain and improve as needed to prevent damage by high winds. Review risk to sensitive receptors accounting for prevailing wind directions, as necessary If high wind identified as a risk, consider additional measures such as implementing windbreaks, increased housekeeping measures and revision of contingency plans	Low	Mild	Low
	Potential for high winds to cause problems with stability of above ground storage tanks on jacks	N/A – no storage tanks on jacks onsite.	N/A	N/A	N/A
	Potential for lightning strikes to damage buildings and infrastructure	If needed, carry out lightning risk assessment and install lightning conductors as necessary	Low	Mild	Low