Recycling and recovery UK

Hallenbeagle Transfer Station and Material Recycling Facility

1.8 Climate Change Risk Assessment

October 2023

Document Details

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Document Review History

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Contents

Appendices

1. Climate Change Risk Assessment

1.1 Hallenbeagle Transfer Station and Material Recycling Facility climate change risk assessment has been undertaken using the EA risk assessment example for adapting to climate change for the hazardous, non-hazardous and inert waste treatment sectors.

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

1.3 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				
	Impact			
Likelihood	**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 = Low to Moderate

1 to 3 = Low

Appendix B – Climate Change Risk Assessment

Potential Climate Change Variable	Possible Impacts	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	Site will operate in accordance with a Fire Prevention Plan (FPP) (Document reference 1.6). The FPP will be reviewed at regular intervals and on at least an annual basis, following any of the events below: • Testing of the plan to ensure the plan works and staff understand the procedures to be undertaken • An incident • Change in legislation or formal guidance • Prior to a change in activity on site	Low	Medium	Low to Moderate
	Potential for fire from overheating electrical equipment	Reviewing heat rating of equipment used on site Providing shaded or cooled areas for equipment	Low	Medium	Low to Moderate

Potential Climate Change Variable	Possible Impacts	Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
	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 Routing pipework out of direct sunlight	Low	Medium	Low to Moderate
	Potential increased dust emissions	Dust on site will be managed in accordance with the Dust Management Plan (DMP) (Document Reference 2.1). As a minimum, the DMP will be reviewed after a change in operations, after an environmental issue and following an accident or complaints on site.	Low	Medium	Low to Moderate
	Potential for drought and loss of water supply	Review of contingency plans Explore options for water harvesting and retention	Low	Medium	Low to Moderate
	Potential increased risk of pests and scavengers	Pests on site will be managed in accordance with the Pest Management Plan (PMP) (Document Reference 2.4). As a minimum, the PMP will be reviewed after a change in operations, after an environmental issue and following an accident or complaints on site.	Low	Medium	Low to Moderate
	Potential increased risk of wildfires affecting the site	Site will operate in accordance with a FPP (Document reference 1.6). The FPP will be reviewed at regular intervals and on at least	Low	Medium	Low to Moderate

Potential Climate Change Variable	Possible Impacts	Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
		an annual basis, following any of the events below: • Testing of the plan to ensure the plan works and staff understand the procedures to be undertaken • An incident • Change in legislation or formal guidance • Prior to a change in activity on site Implementing fire breaks around the site boundary			
Winter daily maximum temperature	Slightly higher winter maximums could generate regular odour complaints and pest infestations	Pests on site will be managed in accordance with the Pest Management Plan (PMP) (Document Reference 2.4). As a minimum, the PMP will be reviewed after a change in operations, after an environmental issue and following an accident or complaints on site.	Low	Medium	Low to Moderate
	Lower winter temperatures could result in an increased risk of pipes (or similar) freezing	Regular planned preventative maintenance and checks on site equipment Increased pipe lagging and insulation	Low	Medium	Low to Moderate

Potential Climate Change Variable	Possible Impacts	Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
Daily extreme rainfall	Potential for increased site surface water and flooding	Preparation of a site-specific flood plan	Low	Medium	Low to Moderate
	Potential for drainage systems to be overwhelmed	Inspection and maintenance of drainage systems Reviewing the capacity of drainage systems	Low	Medium	Low to Moderate
	Increased risk of contaminated rainwater from contact with wastes	Waste that is accepted on site will be stored in the main building to minimise contact with rainwater. Any waste that is stored outside (Gas cylinder and textiles) will be stored within appropriate containers to minimise contact with rainwater. Inspection and maintenance of impermeable surface, drainage system Surface water drainage system will be equipped with a penstock valve to allow any contamination to be contained in the event of an incident.	Low	Medium	Low to Moderate
Average winter rainfall	Potential for increased site surface water and flooding	Preparation of a site-specific flood plan	Low	Medium	Low to Moderate

Potential Climate Change Variable	Possible Impacts	Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
	Potential for drainage systems to be overwhelmed	Inspection and maintenance of drainage systems Reviewing the capacity of drainage systems	Low	Medium	Low to Moderate
Sea level rise	N/A - The site is located approximately 5km south east from the coast and is not within a flood zone from rivers and sea. Therefore the risk of corrosion and flooding from the sea is considered to be low.	N/A	N/A	N/A	N/A
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 dust suppression.	Reviewing current water usage Implementing recirculation or water harvesting systems Review site-specific FPP and DMP. Reviewing alternative measures for dust and fire suppression	Low	Medium	Low to Moderate
Storms	Potential for high winds to damage buildings and infrastructure and blow waste from the site	Review infrastructure Assess receptors and prevailing wind directions	Low	Medium	Low to Moderate

Potential Climate Change Variable	Possible Impacts	Mitigation Measures	Likelihood Rating	Consequence Rating	Risk Rating
		Implementing windbreaks Increased housekeeping measures Implement contingency plans			
	Potential for lightning strikes to damage buildings and infrastructure	Carry out lightning risk assessment Install lightning conductors	Low	Medium	Low to Moderate