

**Medisort Ltd**  
**NO LOSS**

Environmental Risk Assessment

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# 1 Introduction

Medisort Limited has been the permit holder for this site since May 2010. Medisort Ltd currently operates 2 Steam sterilisation units (Autoclaves); the site is also an active transfer station, mainly concentrating on healthcare-style wastes. Medisort Ltd is dedicated to reducing and reusing elements within the healthcare waste sector. We recently participated in a comprehensive research program alongside The University of Brighton on reusing elements within single-use incontinence pads and other absorbent hygiene products (AHPs).

We also offer and encourage healthcare providers who use single-use metal instruments to use our steam sterilisation services. Once sterilisation is done, the SUIs can be included in metal recycling schemes.

This Variation application will allow us to extend our quest to reduce and reuse elements from the healthcare waste sector in this case sharps containers.

The NO-LOSS system has been developed with Sharpak our sharps container supplies the NO-LOSS system is designed to work with the SHARPAK ZERO range of containers.

The aim of this report is to assess the environmental risks associated with the activities undertaken at the Facility as part of the environmental permit (EP) variation. Medisort is required to demonstrate that the necessary measures are in place to protect the environment and ensure that the Facility, throughout its life, will not pose an unacceptable risk to the environment.

The aim of this report is to:

- a. identify potential risks that the activity may present to the environment;
- b. screen out those that are insignificant and don't require detailed assessment;
- c. identify potentially significant risks, where appropriate;
- d. choose the right control measures, where appropriate; and
- e. report the findings of the assessment.

This document has been developed to consider the requirements of Environment Agency Guidance Notes H1 Annexes A, C, H and F. It is acknowledged that these guidance documents have been withdrawn; however, it is understood that the requirements of the guidance are still applicable.

## 1.1 Risk Assessment Process

This assessment has been developed in accordance with the Environment Agency Guidance Note H1. This guidance promotes four key steps:

1. identify risks from the activity;
2. assess the risks and check that they are acceptable;
3. justify appropriate measures to control the risks; and
4. present the assessment.

## 1.2 Step 1 – Identify Risks

The following report will identify the activities that present different types of risk to the environment associated with the operation of the Installation, including:

- a. odour;
  - b. noise;
  - c. fugitive emissions; and
  - d. accidents.
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### 1.3 Step 2 – Assess the Risk

The report will include an assessment of risks associated with the operation of the Installation, and will identify the:

- a. hazard;
- b. receptor; and
- c. pathway.

### 1.4 Step 3 – Justify Appropriate Measures

This report will demonstrate that the risks associated with the operation of the Installation have been considered and identify the control measures which will be in place to demonstrate that the risks are being appropriately managed.

### 1.5 Step 4 – Present the Assessment

The assessment will conclude by presenting the following:

- a. possibility of exposure;
- b. consequence; and
- c. the overall risk.

The report will present the overall risk applying the Environment Agency's H1 criteria, defined as:

- a. insignificant;
  - b. not significant; and
  - c. significant.
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## 2 Table A1 – Odour Risk Assessment and Management Plan

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Odorous emissions may occur during the delivery of waste, reception of waste and the storage and handling of waste prior to the Sharpak Zero containers being process.	Immediate area. The Facility is located within a Industrial. With no Immediate neighbours bordering the perimeter of the EP boundary.	Air- Winds generally blow from a north-westerly direction.	Due to the nature of the waste being received, all waste will be delivered in sealed bins within enclosed vehicles. The Sharpak Zero containers being process will only be opened once in the Sharps Box Opening Area which is kept at under negative pressure whilst in operation.	Minimal.	Minimal.	Not significant due to management systems in place.
Odorous emissions may occur during periods of shutdown	Immediate area.	Air- Winds generally blow from a north-westerly direction.	The Sharpak Zero containers will be fully enclosed and airtight, stored in 360/770 wheeled bins within the building and within enclosed storage.	Minimal	Minimal.	Not significant due to management systems in place.

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
			Regular olfactory checks will be undertaken around the perimeter of the installation.			

### 3 Table A2 – Noise and Vibration Risk Assessment and Management Plan

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Noise from plant items such as the waste treatment processes, radiation from the building envelope itself, etc.	Immediate area.	Sound propagation through air and the ground.	Noisy plant items, are installed inside the No Loss twin ISO containers rather than outside and, where appropriate, they will be fitted with noise insulation. The installation will be designed to reduce noise and tonal components. Regular maintenance of plant items. Noise level checks will be carried out regularly in operational areas, with early warning of increasing noise levels resulting in reduction or mitigation.	Minimal.	Minimal.	Not significant.

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Noise from vehicle movements.	Immediate area.	Sound Propagation through air and the ground.	Waste deliveries will typically occur during day-time periods. There is no expectation of increased noise levels, noise level checks will be carried out regular operational areas, with early warning of increasing noise levels resulting in reduction or mitigation.	Minimal.	Annoyance.	Not significant.



## 4 Table A3 – Fugitive Emissions Risk Assessment and Management Plan

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Emission releases from the main building when opening and closing doors.	Immediate area – air.	Air, surface runoff, direct contact.	All waste and residue handling activities will be undertaken within a covered building and within enclosed storage areas. There is minimal potential for dust arisings due to the nature of the waste.	Minimal.	Annoyance.	Not significant
Spillage of waste during delivery and offloading.	Immediate area – air, land, water.	Air, surface runoff.	Waste will be delivered in sealed bins in enclosed vehicles. All waste unloading activities will be undertaken within a covered building and within enclosed storage areas. The nature of the waste will be that it is all in the Sharpak Zero containers.	Minimal.	Annoyance.	Not significant

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
			the risk of direct waste spillage is minimal.			
Dust from waste deliveries being blown off-site.	Immediate area – air, land.	Air, surface runoff.	Due to the Sharpak Zero containers being delivered to site in enclosed vehicles and being sealed containers themselves. The nature of the waste and how its packaged is such that there is minimal potential for dust arisings.	Highly unlikely.	Annoyance	Not significant
Release off-site of litter.	Immediate area – air, land.	Air, direct contact	Due to the Sharpak Zero containers being delivered to site in enclosed vehicles and being sealed containers themselves. The nature of the waste and how its packaged is such that there is minimal potential for dust arisings.	Highly unlikely	Annoyance	Not significant

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Dust from road surface, when site vehicles arrive/leave.	Immediate area – air, land, water.	Air, surface runoff.	Control speeds, maintain the condition of the road, and take due care and attention of trafficking conditions. Regular cleaning of road surfaces. There will be no increases in vehicles visiting the due to the operation of the No Loss system.	Low.	Nuisance	Insignificant.

## 5 Table A4 – Accidents Risk Assessment and Management Plan

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Loss of power.	None.	N/A	Any loss of power and the No Loss system goes into a soft shut down.	Low.	None.	Not significant.
Fires in all waste reception storage and handling areas.	Immediate area – air.	Direct contact.	Fire detection systems, water sprinklers and fire hoses. Site specific accident management plan in place.	Low.	Visual impact, pollution of air.	Not significant.

What Do You Do That Can Harm and What Could Be Harmed?			Managing The Risk	Assessing The Risk		
Hazard	Receptor	Pathway	Risk Management	Possibility of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Contaminated fire water.	Immediate area – water, land.	Surface runoff, leaching.	In the event of a fire, the responsible person will isolate the drains using drain covers along with isolation of the effluent pumps to ensure fire water is contained.	Low.	Pollution of surface water.	Not significant.
Failure to contain firewater.	Land.	Land, water, groundwater.	Inspection and maintenance of roadways and areas of hard standing.	Unlikely.	Release of chemicals to water.	Not significant.
Vandalism.	Immediate area.	Land, air, water.	Security fences, controlled entrance to the site, CCTV.	Low.	Release of substances to any environment.	Not significant.

## 6 Detailed Assessment

### 6.1 Emissions to Air

The only 2 points of emissions to air are from “Sharps Box Opening Area”, which operates under negative pressure, and is extracted to the atmosphere within the existing building via an HEPA filter, along with a warm/moist air outlet from the washing process. Therefore, this will not result in any increase in environmental impact of the Facility.

### 6.2 Emissions to Water

There will be no emissions to water from the No Loss process as all wash waters will be containerized and sent off site for Treatment or disposal.

### 6.3 Noise

The impact of noise from the No Loss system will be unnoticeable due to all equipment being housed in an enclosed environment and due to the nature of the system having a very low noise signature.

### 6.4 Visual Impact

The visual impact of the No Loss system has not been considered within this variation.

### 6.5 Odour

The impact of odour from the No Loss system will not contribute to any increased odour concerns.

### 6.6 Global Warming

The introductory and operation of the No Loss system will not contribute toward global warming.

### 6.7 Disposal of Waste

The introductory and operation of the No Loss system will not contribute towards increased waste disposal in fact the nature by design is to reduce waste disposal. Due to giving us the ability to reuse sharps boxes.

## 7 Conclusions

As presented in this report, the No Loss system is considered to contain appropriate control measures and management systems to ensure that the process does not have any significant impacts upon the local environment.

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