1 ENVIRONMENTAL IMPACT ASSESSMENT

1.1 Process Inputs and Environmental Hazards

A detailed description of the adhesive spraying process, its inputs and outputs have been presented in the Process flow Diagram in Document No KJR-01. Details of the significant environmental pollutants [hazards], their sources, and any additional information are presented below in Table 1.

Table 1: Details of Significant Environmental Hazards/Pollutants

Environmental Aspect/Hazard	Sources	Supporting Information
VOC fugitive emissions - external air	• Delivery of bulk adhesives, hardeners, and cleaning solvents	• 20 Kg Drums of adhesive remain lidded and film wrapped and are stored in a bunded flammables cabinet in the Goods-In area inside the installation. The adhesives are heat sensitive and need to be kept away from frost and cold temperatures. • 5-Litre Cans of Gun Cleaning solvents are stored externally in a bunded hazardous materials storage depot.
	• Draining used drums of solvented adhesive into waste IBC	• Unquantified, but there are minor releases of VOC during transfer and from vent on IBC and from residual adhesive in empty drums.
VOC fugitive emissions - indoor air	• Solvent Flash Off from freshly sprayed mouldings on 8-tier mobile trolleys between spray booths and sub-assembly benches.	• **Fugitive emissions are released during the flash-off period (ca. 15 min per batch).** • **Workplace levels are regularly determined by air monitoring.** • **Survey carried out in January 2025 indicated that ca. 39 microgrammes of VOC escape to the indoor air in a 24 hour period.**
VOC – External	• Emissions from three point sources associated with spraying adhesives and gun cleaning.	• ** add semi-quantitative data from FID readings** RF = 2.7 FID • Mention MCERT
Wastes	• Drums of dried adhesive • IBC containing waste adhesive and solvents	• Unquantified, but there are minor releases of VOC from vent on IBC and from residual adhesive in empty drums.

1.2 Environmental Risk Assessment

The following assessment criteria were used to determine the significance of the environmental risks associated with the KJ Ryan Installation.

1.2.1 Sensitivity & Impact Criteria

Table 2: Sensitive & Environmental Impact Criteria

Receptor Sensitivity		Magnitude of Environmental Damage/Impact	
Very high (5)	• Receptor has very limited or no capacity to accommodate physical or chemical changes or influences. • Receptor has fundamental characteristics which contribute significantly to the distinctiveness, rarity and character of the resource, is of very high importance and rarity that is on an international in scale (e.g. designated SSSI site, or World Heritage, etc) and has limited potential for substitution/replacement.	**Very high (5)**	• Loss of resource and/or integrity of the resource. • Severe damage to key characteristics, features or elements. • Permanent / irreplaceable change, which is certain to occur. • Large scale improvement of resource or attribute quality; extensive restoration or enhancement are required.
High (4)	• Receptor has a limited capacity to accommodate physical or chemical changes or influences. • Receptor possesses key characteristics which contribute significantly to the distinctiveness, rarity and character of the resource, is of high importance and rarity that is national in scale (e.g. designated sites, SSSI, special protected areas, or areas of conservation) and has limited potential for substitution/replacement.	**High (4)**	• Loss of resource, but not affecting integrity of the resource; • Partial loss of or damage to key characteristics, features or elements. • Permanent / irreplaceable change, which is likely to occur. • Improvement to, or addition of, key characteristics, features or elements of the resource; improvement of attribute quality are required.
Medium (3)	• Receptor has a limited capacity to accommodate physical or chemical changes or influences. • Receptor possesses key characteristics which contribute to the distinctiveness and character of the resource, is of medium importance and rarity that is regional in scale (e.g. designated sites such as County Wildlife Sites	**Medium (3)**	• Minor loss of, or alteration to, one or more key characteristics, features or elements. • Measurable change in attributes, quality or vulnerability. • Long-term though reversible change, which is likely to occur.

Table 2: Sensitive & Environmental Impact Criteria

Receptor Sensitivity		Magnitude of Environmental Damage/Impact	
	(CWSs), Regionally Important Geological Sites, Grade II Listed Buildings, Local BAP, etc.), and has limited potential for substitution/replacement.		• Minor improvement to, or addition of, one (maybe more) key characteristics, features or elements of the resource; minor improvement to attribute quality are required.
Low (2)	• Receptor has a moderate capacity to accommodate physical or chemical changes or influences. • Receptor possess characteristics which are locally distinctive only, are of low to medium importance and rarity that is local in scale (e.g. designated sites such as Local Nature Reserves) and potentially can be substituted/replaced.	**Low (2)**	• Very minor loss of, or alteration to, one or more key characteristics, features or elements. • Noticeable change in attributes, quality or vulnerability. • Short- to medium-term though reversible change, which could possibly occur. • Very minor improvement to, or addition of, one or more key characteristic, feature or element; very minor improvement to attribute quality are required.
Very Low (1)	• Receptor is generally tolerant of and can accommodate physical or chemical changes or influences. • Receptor characteristics do not make a significant contribution to local character or distinctiveness, and are of very low importance and rarity, are not designated, and are easily substituted/replaced.	**Very Low (1)**	• Temporary or intermittent very minor loss of, or alteration to, one or more) characteristic, feature or element. • Possible change in attributes, quality or vulnerability. • Short-term, intermittent and reversible change, which is unlikely to occur. • Possible very minor improvement to, or addition of, one or more characteristic, feature or element; possible improvement to attribute quality are required.

Source: adapted from Royal Haskoning DHV – Approach to the Environmental Impact Assessment, 2010

1.2.2 Significance of Environmental Impact

The significance of an impact is determined by combining the predicted magnitude of the effect with the sensitivity of the receptor. However, environmental impact statements are subjective and based on judgement and expertise regarding the potential interaction between the receptor and the hazard and on other associated factors such as the likelihood of the effect occurring and the duration of exposure to the hazard [refer to Tables 3 & 4, below].

Table 3: Guidelines on Significance (Risk) of Environmental Impact

Sensitivity of Receptor	Magnitude of Environmental Impact				
	Very High - 5	High – 4	Medium – 3	Low – 2	Very Low - 1
Very High – 5	25 - Major	20 - Major	15 - Moderate	10 -Moderate	5- Minor
High – 4	20 -Major	16 -Moderate	12 -Moderate	8- Minor	4 -Negligible
Medium – 3	15 -Moderate	12 -Moderate	9 -Minor	6 - Minor	3 - Negligible
Low – 2	10 -Minor	8 - Minor	6 - Minor	4 - Negligible	2 -Negligible
Very Low - 1	5 -Minor	4 -Negligible	3 - Negligible	2 - Negligible	1 - Negligible

Source: adapted from Royal Haskoning DHV – Approach to the Environmental Impact Assessment, 2010

1.2.3 Likelihood of Damage to Receptor(s)

Table 4: Guidelines on Likelihood of Environmental Damage

Almost Certain – 5	Expected to occur regularly during normal operations
Likely – 4	Expected to occur at some time
Possible – 3	May occur at some time
Unlikely – 2	Unlikely to occur during normal operations
Rare - 1	May happen, but very rarely

1.3 Impact on the Environment - Risk Assessment

1.3.1 Normal Operations

An assessment of the potential environmental risks associated with the installation, taking into account the current mitigation measures and any existing extenuating conditions is presented below in Table 5.

Table 5: Details of Significant Environmental Aspects for KJ Ryan Installation

Hazard	Receptors	Identified Pathway(s)	Risk Management Technique	Sensitivity	Impact	Likelihood	Extenuating Circumstances & Mitigation Measures	Residual Risk [Note 1]
Fugitive VOC Emissions - External Air	• Residential properties between 40-80m West of Installation • Industrial estates between 150-250 m East and south of Installation • M6 motorway, 350 m, North of Installation.	Airborne dispersion at ground level	Lidded containers kept in heated, bunded storage depot.	2	2	2	• Weekly deliveries of adhesive and gun cleaning. All on pallets and film wrapped. • VOC emissions at slightly above ground are diluted and dispersed, with the prevailing winds across the installation are South-Westerly causing limited impact to existing receptors.	**4 - Negligible**
Fugitive Emissions – Internal	• Managers, Operators and Visitors to the Installation	Dispersion within workplace post application of adhesive	Housekeeping & regular workplace monitoring of airborne VOC levels.	3	3	4	• General dilution ventilation and partial enclosures	**9 – Minor**

Table 5: Details of Significant Environmental Aspects for KJ Ryan Installation

Hazard	Receptors	Identified Pathway(s)	Risk Management Technique	Sensitivity	Impact	Likelihood	Extenuating Circumstances & Mitigation Measures	Residual Risk [Note 1]
VOC – External	• Residential properties between 40-80m West of Installation • Industrial estates between 150-250 m East and south of Installation • M6 motorway, 350 m, North of Installation.	Airborne dispersion through three Point Sources situated on the roof	Regular emission monitoring by MCERT accredited contractor	3	3	5	• VOC emissions are dispersed through chimney stacks (efflux velocity = ca. 6-9 m/s), the prevailing winds across the installation are South-Westerly causing limited impact to existing receptors.	**9 - Minor**
Waste Streams	• Residential properties between 40-80m West of Installation • Industrial estates between 150-250 m East and south of Installation • M6 motorway, 350 m, North of Installation.	Airborne dispersion at ground level	Waste solvents IBC kept lidded with minimal escape of VOC to the atmosphere. Solvent rags and other solvented wastes stored in lidded containers	2	2	2	• Wipes are collected by licenced contractor	**4 - Negligible**

1.4 Habitat Regulations and Wildlife Countryside Act

1.4.1 Air Emissions

Emissions to air from the Part B Installation are not within 2 kilometres from any sites of special scientific interests, European protected sites or any other sensitive receptors.

1.4.2 Water Discharges

There are no water discharges associated with the A2 installation**.**