




## EPR PART B PERMIT APPLICATION SUPPORT DOCUMENT

**IAC Group Ltd**  
**Di-Isocyanate Foam Injecting Facility**

Prepared by:  
**Sol Environment Ltd**

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## NON TECHNICAL SUMMARY

IAC Group Ltd is making this application for a Part B Installation Permit Application under The Environmental Permitting (England and Wales) Regulations 2016 for the operation of a foam injection plant at their site in Solihull, West Midlands.

The site is located at Elmdon Building 46, Elmdon Trading Estate, Bickenhill Lane, Solihull, West Midlands, B37 7HE (Grid Reference Easting: 418386 Northing: 284426).

IAC Group Ltd are a major 'Tier 1' interior components supplier to the Automotive Sector. This application relates **solely** to the foam injection plant associated with IAC Groups car interiors production facility located in Elmdon Building 46. All other manufacturing activities within the building fall outside of the regulatory requirements of the Environmental Permitting Regulations (EPR).

Under the Environmental Permitting Regulations 2016, this process meets the definition of a Part B installation under Schedule 1, Chapter 4 'The Chemical Industry' Section 4.1 'Organic Chemicals' Part B(a) which states;

- a) *Unless falling within Part A(1) of this Section, any activity where the carrying on of the activity by the person concerned at the location in question is likely to involve the use in any 12-month period of 5 or more tonnes of any di-isocyanate or of any partly polymerised di-isocyanate or, in aggregate, of both.*

This document constitutes a New Part B Installation Permit Application under The Environmental Permitting (England and Wales) Regulations 2016 and is required to be designed and operated in accordance with *Process Guidance Note 6/29(12) – Statutory Guidance for Di-isocyanate Processes*.

### **Emissions to Air**

There are no process emissions to atmosphere arising from the foam injection process.

### **Odour**

Due to the design of the building structure, the enclosed processing activities and the nature of the development, there is very little potential for fugitive offsite odour emissions and impacts to arise from the site.

### **Emissions to Controlled Water**

There will be no direct process emissions to controlled waters or sewer arising from the proposed development.

### **Emissions to Land**

There will be no emissions to land arising from the proposed development.

## 1. INTRODUCTION

IAC Group Ltd is making this application for a Part B Installation Permit Application under The Environmental Permitting (England and Wales) Regulations 2016 for the operation a foam injection plant at their site in Solihull, West Midlands.

The site is located at Elmdon Building 46, Elmdon Trading Estate, Bickenhill Lane, Solihull, West Midlands, B37 7HE (Grid Reference Easting: 418386 Northing: 284426).

IAC Group Ltd are a major 'Tier 1' interior components supplier to the Automotive Sector. This application relates **solely** to the foam injection plant associated with IAC Groups car interiors facility in Elmdon Building 46. All other manufacturing activities within the building fall outside of the regulatory requirements of the Environmental Permitting Regulations (EPR).

Under the Environmental Permitting Regulations 2016, this process meets the definition of a Part B installation under Schedule 1, Chapter 4 'The Chemical Industry' Section 4.1 'Organic Chemicals' Part B(a) which states;

- b) Unless falling within Part A(1) of this Section, any activity where the carrying on of the activity by the person concerned at the location in question is likely to involve the use in any 12-month period of 5 or more tonnes of any di-isocyanate or of any partly polymerised di-isocyanate or, in aggregate, of both.*

This document constitutes a New Part B Installation Permit Application under The Environmental Permitting (England and Wales) Regulations 2016 and is required to be designed and operated in accordance with *Process Guidance Note 6/29(12) – Statutory Guidance for Di-isocyanate Processes*

The remainder of this application support document is structured accordingly:

- Section 2: Provides specific details associated with the Part B Installation Permit Application;
- Section 3: Provides specific nature and detailed description of the emissions to air associated with the Installation;
- Section 4: Provides details of all environmental monitoring associated with the Installation;
- Section 5: Provides an Environmental Impact and Assessment of the Installation.

All technical appendices associated with the Part B Application comprise the following:

- Annex A: Figures;
- Annex B: Material Safety Data Sheets;
- Annex C: Emergency Procedures;
- Annex D: EIMS Manual;
- Annex E: Internal Chemical Storage; and
- Annex F: Demonstration Video.

The location of the Installation is provided overleaf in Figure 1.1.

The site layout and Installation Boundary is provided in Figure 1.2.

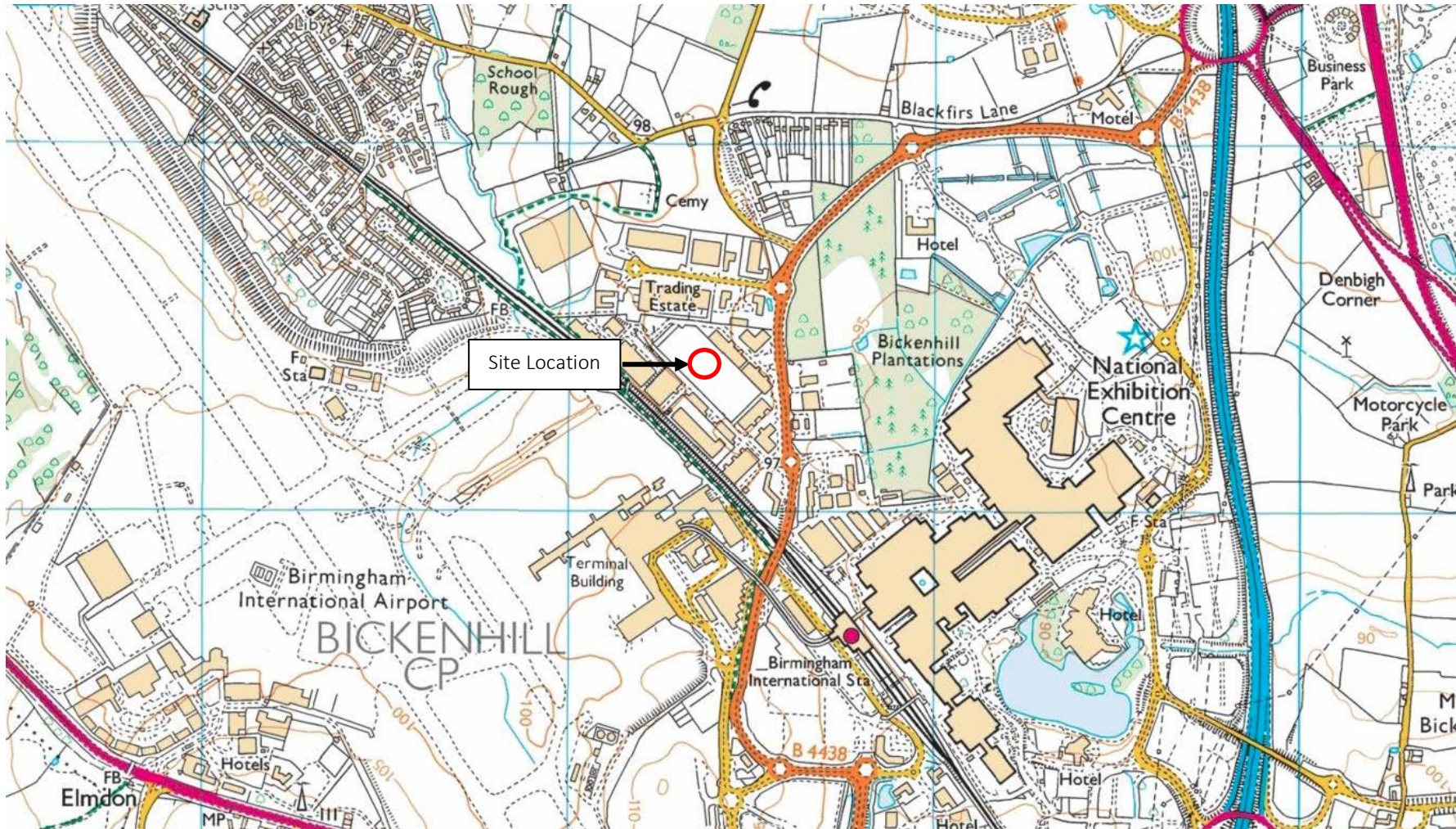


Figure 1.1: Site Location



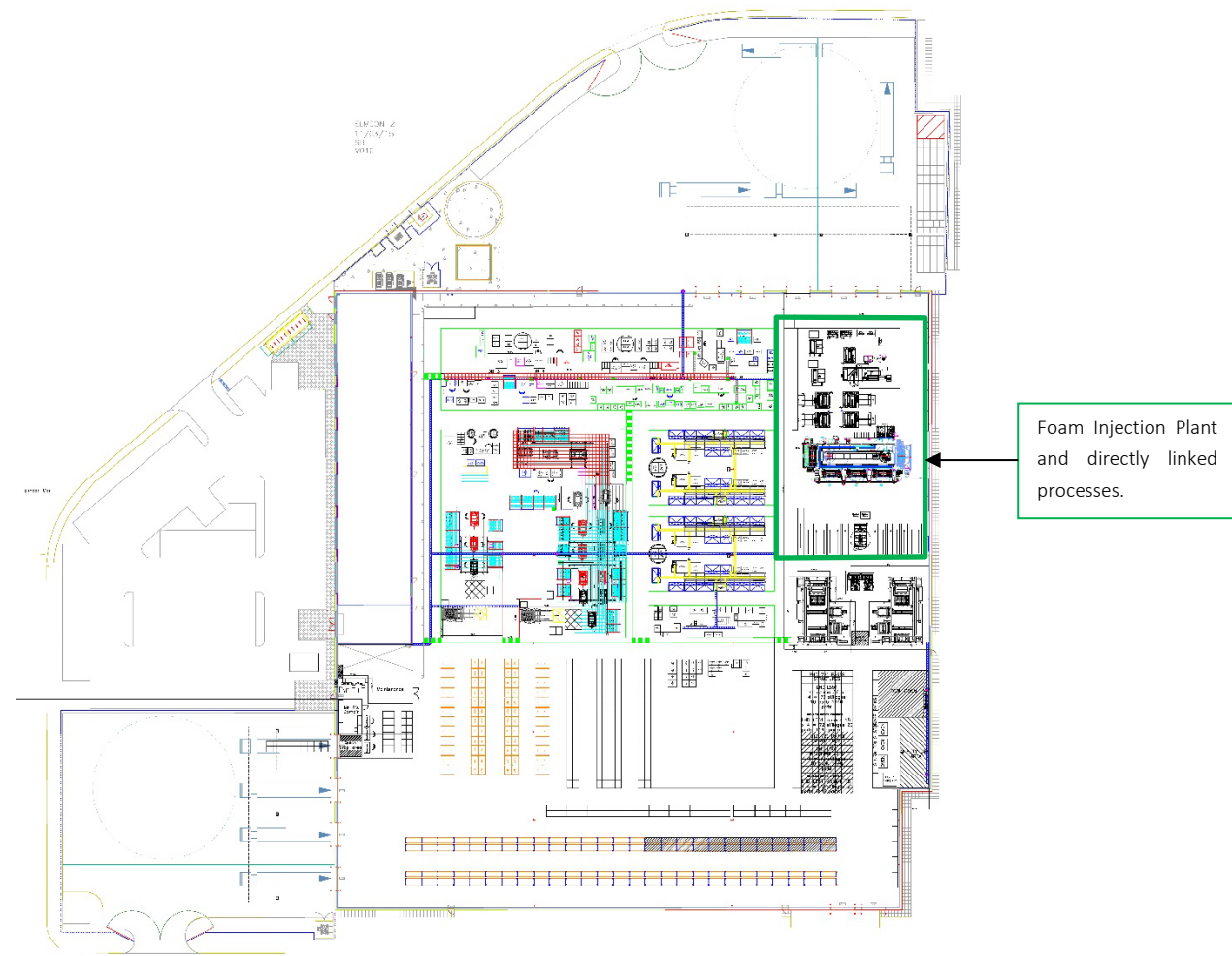


Figure 1.2: Installation Boundary

## 2. PROPOSED ACTIVITIES

### 2.1 Type of Permit

IAC Group Ltd (the 'Operator' or 'Applicant') are making an application for a Part B Installation Permit for the operation of a foam injection plant at a site in Solihull, West Midlands.

This application relates **solely** to the foam injection plant associated with IAC Groups facility located in Elmdon Building 46.

The applicant is making an application for an Environmental Permit to carry out the following listed activities.

**Table 2.1: Listed Activities**

Activity listed in EPR Regulations 2016	Description of Specified Activity	Limits of Specified Activity
Section 4.1 Organic Chemicals Part B(a)	Unless falling within Part A(1) of this Section, any activity where the carrying on of the activity by the person concerned at the location in question is likely to involve the use in any 12-month period of 5 or more tonnes of any di-isocyanate or of any partly polymerised di-isocyanate or, in aggregate, of both.	This permit relates solely to the foam injection plant associated with IAC Groups facility located in Elmdon Building 46.

The technical guidance notes used in the preparation of this application document are:

- Process Guidance Note 6/29(12) – Statutory Guidance for Di-isocyanate Processes; and
- EPR – How to Comply with your Environmental Permit (reference EPR 1.00).

### 2.2 Installation Boundary

All operations will be contained within the site ownership boundary. A figure showing the proposed building configuration and Installation Boundary has been provided in Section 1, Figure 1.2.

All aspects of the facility have been designed in accordance to the Defra's / Environment Agency's Pollution Prevention Guidance and Horizontal Guidance Notes.

## 2.3 Overview of the Process

The proposed process is a Krauss Maffei five station automated robotic foam injection moulding facility for the purposes of manufacturing vehicle dashboard sub-assemblies.

The process utilises 2 pack di-isocyanate foam chemicals to produce rigid PVC lined polyurethane components.

The process is fully automated and features the following key components:

- Automated production robot;
- Media supply station containing 2 x IBC's of isocyanate and polyol chemicals and associated pumps, mixing, heating and pumping stations;
- Vacuum moulding beds
- Control Systems; and
- CNC tool change apparatus.

It is important to note that no blowing agents are used in the process and due to being an injection process rather than a spraying process, there are no emissions of particulate to atmosphere.

The expected annual tonnage of Polyol will be 190 tonnes per annum and the expected annual tonnage of Isocyanate will be 120 tonnes per annum.

Please refer to the material safety data sheets for Polyol and Isocyanate provided within *Annex B – Material Safety Data Sheets* of this application document.

### *Process Description*

A formed PVC skin is loaded into the bottom of a foam tool located within a servo driven mould carrier. A LGFPP mould is loaded to the top of the tool and both parts are secured in place with vacuum.

Once the parts have been loaded the operator will signal for the cycle to start with a button press. A roller shutter door will close and the mould carrier will move into the pour position.

A six axis robot mounted on a track system will then move to the tool carrier and pour a mix of isocyanate and polyol into the mould in a specific pattern to allow the mould to fill correctly.

As soon as the pattern has been completed, the robot will move out of the way and the mould carrier will shut the tool together and clamp into place.

The carrier will now remain closed for approximately 4 minutes while the foam expands and cures. Once this cycle has completed, the foam carrier will unlock and open up the tool. The carrier will move into an unload position and the roller shutter door will open to allow the operator to remove the part.

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Please refer to the video provided within *Annex F – Demonstration Video* which shows the foam injecting process.

The schematic below details the entire process carried out within the IAC facility, with the activity relating to this permit application identified as the permitted boundary.

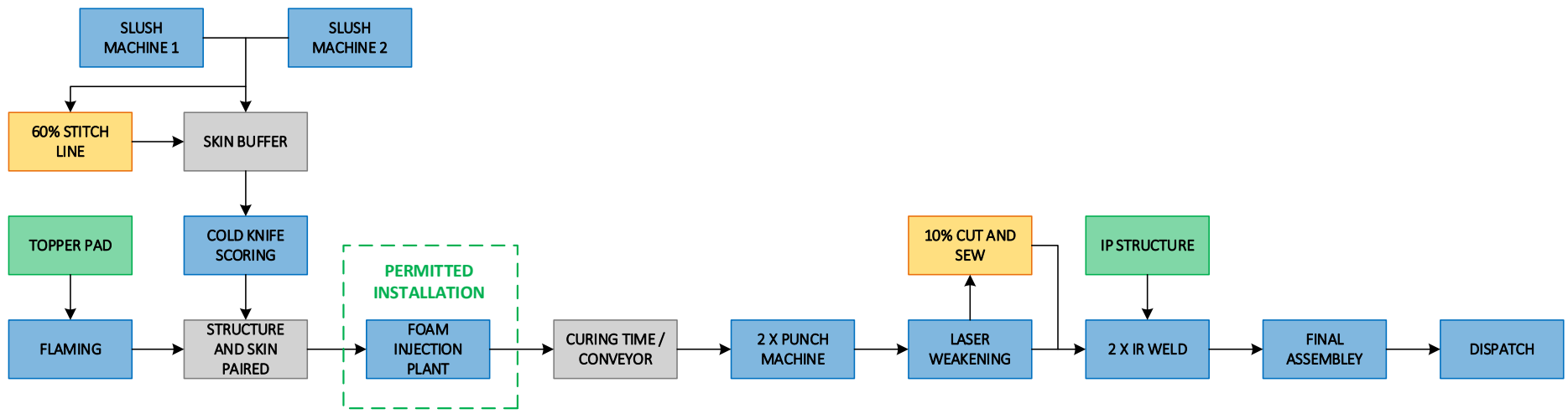


Figure 2.1: Process Schematic

## 2.4 Abnormal Events

In the unlikely event that there is a malfunction or breakdown which could lead to abnormal emissions, IAC Group will:

- Investigate the incident and undertake the necessary remedial action immediately;
- Adjust the process / activity to minimise any potential abnormal emissions; and
- Record all events and actions within the site diary.

The site has a planned preventive maintenance procedure in order to prevent this abnormal event from happening. However, the site will also have a written procedure for dealing with any plant failure to ensure that the event is dealt with quickly and to minimise any adverse effects.

## 2.5 Control Measures

IAC operate within the procedural controls of their Certified Environmental Management System (ISO14001) and Quality Control Systems (TS & 9001). Please refer to Section 2.8 for more information.

Please refer to the process flow overleaf which demonstrates the control measures for the foaming process.

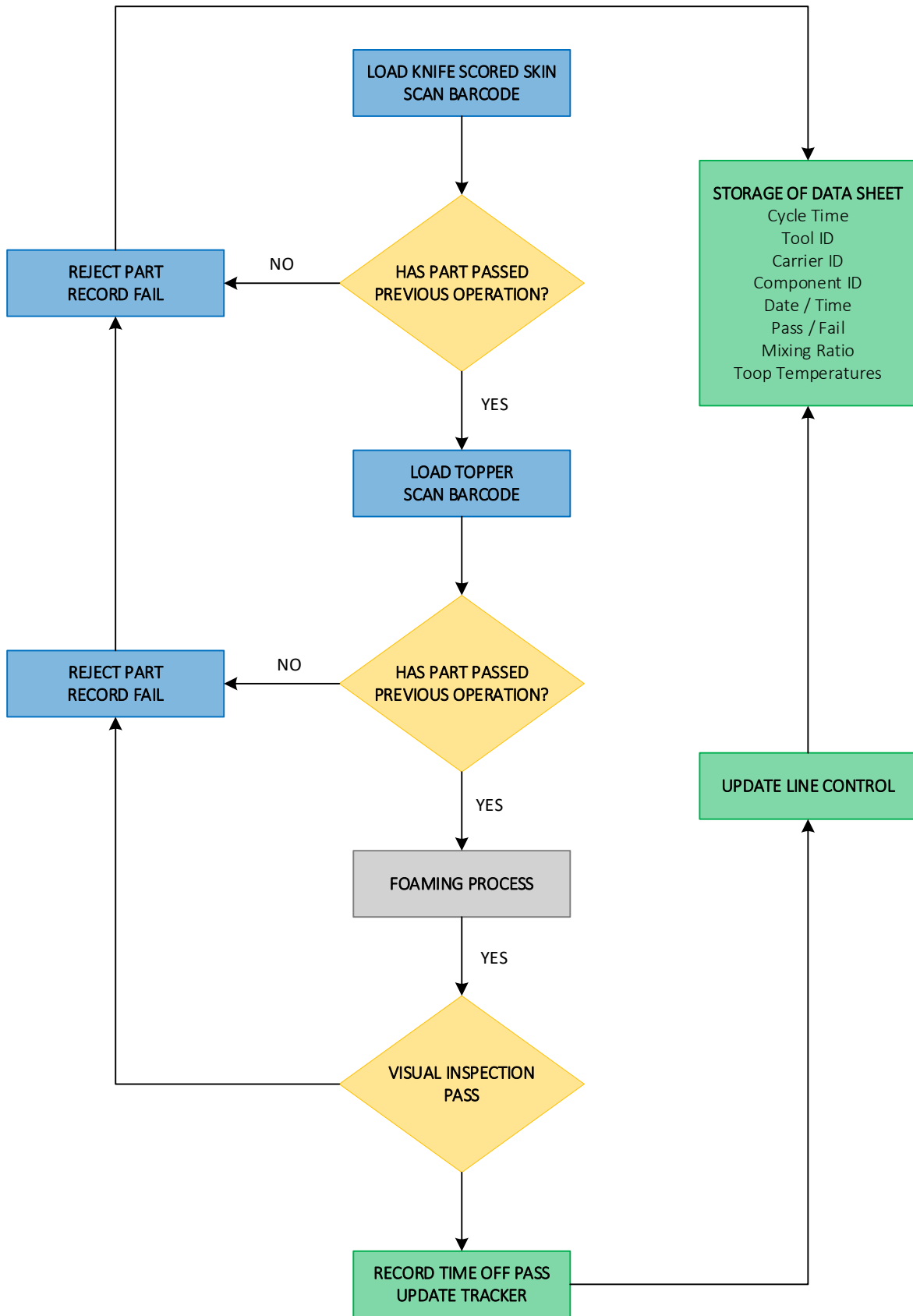


Figure 2.2: Control Measures Process Flow

## 2.6 Materials, Handling and Storage

The receipt, handling and storage of Polyol and Isocyanates will be carried out to ensure that emissions are prevented.

Polyol and Isocyanate storage will take place within Intermediate Bulk Container (IBC). The IBC's will be stored internally within a temperature controlled bunded unit, similar to the type shown in the Figure 2.3 overleaf.

The bunded unit will be sealed and resistant to the chemicals in storage and capable of holding at least 110% of the capacity of the largest storage IBC within the bund or 25% of the total capacity of all the IBCs within the bund, whichever is the greatest. The storage unit will be locked and secure when not in use.

A summary of the handling and storage controls in place at site to ensure that emissions are controlled is provided below:

- The receipt, handling and storage of all materials are carried out internally.
- All IBCs containing Polyol and Isocyanates are lidded and enclosed.
- All transfer of Polyol and Isocyanates is enclosed.
- Storage areas for IBCs are provided with secondary containment bunds which are impervious, resistant to the liquids in storage and capable of holding 110% of the largest IBC.
- No cleaning of IBC's will take place on site.
- No cleaning of the foam equipment will be carried out on site, the system has internal filters that auto rotate to keep the machinery clean.
- All work place environments are monitored in accordance to HSE occupation health workplace monitoring requirements.

Spill kits are provided around the site for use in the event of a spillage. Such spillages will be cleaned up immediately and the collected material shall be held in an enclosed container pending removal from site.

All applicable plant and equipment on site has been designed to be compliant with Dangerous Substance and Explosive Atmosphere Regulations (DSEAR) and HSE ATEX (explosive atmosphere) requirements.

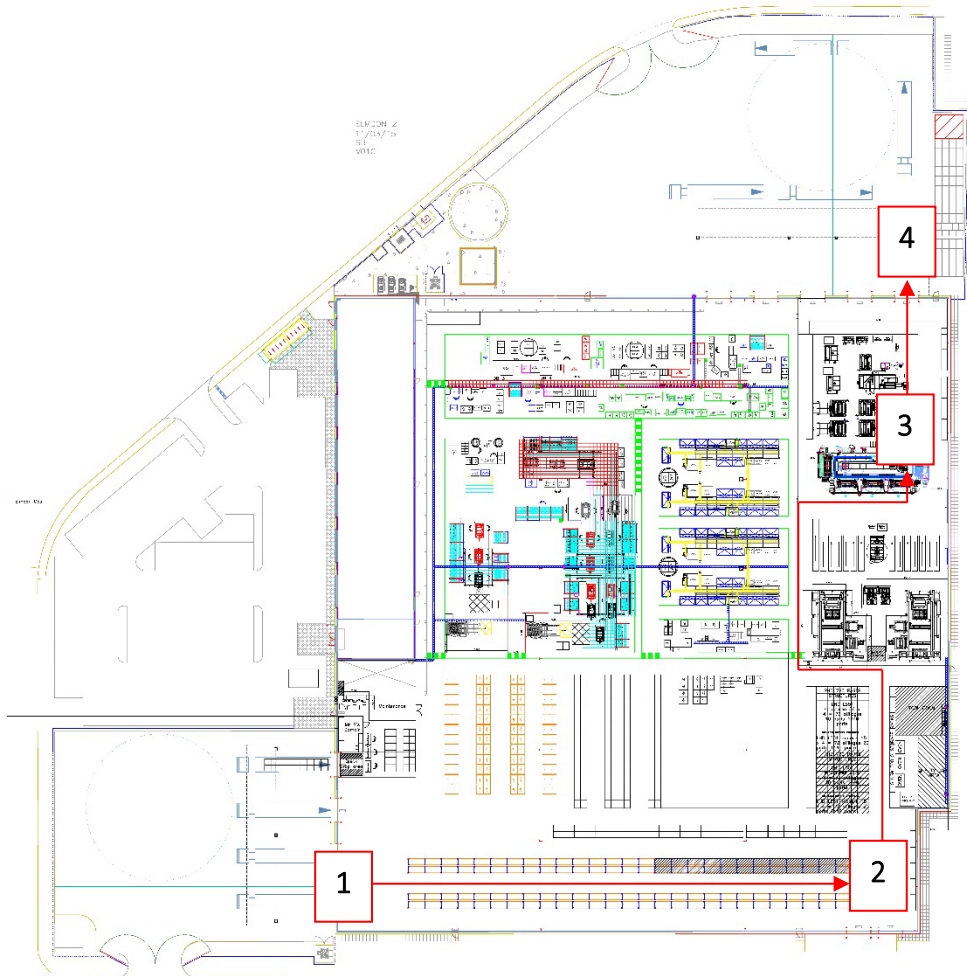




**Figure 2.3:** Bunded IBC Storage

Once the IBC's have been used they will be stored ready for collection by Equilibrium Chemicals Ltd. There will be no washing of the IBCs on site. Whether full or empty, the IBCs will be kept securely lidded.

Please refer to the flow chart overleaf which shows the IBC journey through the site.



1. Delivery and offloading of IBC's containing Isocyanite and Polyol.
2. Storage of IBCs in secure storage.
3. Foaming equipment where IBC's are used.
4. Empty container removed and exported off site.

Figure 2.3: IBC Journey

## 2.7 Dust and Spillage Control

In the event of a spillage or incident the following procedures will be used:

- ELMI-2.441-01 Emergency Spill Response;
- Incident Response Procedure.

Please refer to the procedures within *Annex C – Emergency Procedures* for more information.

## 2.8 European Integrated Management System

The site is operated in accordance with corporate standards and procedures as part of IAC Groups wider European Integrated Management System Manual. The manual defines the objectives and requirements with compliance of customer requirements, ISO-9001:2008, ISO/TS-16949:2009, ISO-14001:2009, OHSAS-18001:2007, ISO 50001:2011.

A copy of the European Integrated Management System Manual is provided within *Annex D – EIMS Manual* and a summary of the main process documents is provided below.

Process	Title	Process Owner
	EIMS-Manual	Senior Director Corporate Quality Europe
	Global Quality Policy	Global CEO / President
	Global HS Policy	Global CEO / President
	Global Environment Policy	Global CEO / President
	Energy Policy (Germany only)	SVP Operations Europe
<b>EUB-1.10</b>	<b>Leadership &amp; Strategy</b>	<b>Global CEO / President</b>
<b>EUB-1.20</b>	<b>EIMS - European Integrated Management System</b>	<b>Senior Director Corporate Quality Europe</b>
EUB-1.21	EIMS-Documentation	Senior Director Corporate Quality Europe
EUB-1.22	Internal Audits	Senior Director Corporate Quality Europe
EUB-1.23	Control of Non-Conformances	Senior Director Corporate Quality Europe
EUB-1.24	HSE Management	SVP Human Resources Europe
EUB-1.25	IMDS	Senior Director Corporate Quality Europe
EUB-1.26	Customer Specific Requirements	Senior Director Corporate Quality Europe
EUB-1.27	Energy Management	Senior Director Corporate Quality Europe
<b>EUB-1.40</b>	<b>Operational Management</b>	<b>SVP Operations Europe</b>
EUB-1.41	Manufacturing Footprint process	SVP Operations Europe
EUB-1.42	Plant Resource Planning	SVP Operations Europe
EUB-1.43	Plant Technology and Process Capability	SVP Operations Europe
EUB-1.44	MOS	SVP Operations Europe
EUB-1.45	Logistic Services	SVP Operations Europe
EUB-1.46	Inventory Management	SVP Operations Europe
<b>EUB-1.50</b>	<b>Management Review</b>	<b>SVP Operations Europe</b>
<b>EUB-1.60</b>	<b>Communication</b>	<b>Communications Manager Europe</b>
<b>EUB-1.70</b>	<b>Continual Improvement</b>	<b>SVP Operations Europe</b>
EUB-1.71	Continual Improvement	SVP Operations Europe
EUB-1.72	IAC Production System - IPS	Senior Director Lean & CI Europe
EUB-1.73	PFMEA Review	Senior Director Corporate Quality Europe
<b>EUB-2.10</b>	<b>GDLS - Global Development and Launch System</b>	<b>SVP Commercial Europe</b>
EUB-2.11	Invent	SVP Commercial Europe
EUB-2.12	Proposal and Award	SVP Commercial Europe
EUB-2.13	Product and Process Development	SVP R&D and Engineering Europe
EUB-2.14	Production Readiness	SVP Commercial Europe
EUB-2.15	Launch	SVP Commercial Europe
EUB-2.20	Change Management Process	SVP R&D and Engineering Europe
<b>EUB-2.30</b>	<b>Manufacturing</b>	<b>SVP Operations Europe</b>
EUB-2.31	Production Planning	SVP Operations Europe
EUB-2.32	Identification & Traceability	SVP Operations Europe
EUB-2.33	Maintenance & Tool Management	SVP Operations Europe
EUB-2.34	Customer Property	SVP Operations Europe

Process	Title	Process Owner
EUB-2.35	Process Validation	SVP Operations Europe
EUB-2.36	Process and Product Control	SVP Operations Europe
EUB-2.37	Material Handling	SVP Operations Europe
<b>EUB-2.40</b>	<b>Quality &amp; HSE Processes</b>	<b>Senior Director Corporate Quality Europe</b>
EUB-2.41	Control of MTC Equipment & Material	Senior Director Corporate Quality Europe
EUB-2.42	Monitoring & Measurement	Senior Director Corporate Quality Europe
EUB-2.43	Internal & External Laboratory	Senior Director Corporate Quality Europe
EUB-2.44	Operational Control HSE	Corporate HSE Manager Europe
EUB-2.45	Operational Control Energy	Senior Director Corporate Quality Europe
EUB-2.46	Receiving Inspection	Senior Director Corporate Quality Europe
EUB-2.47	VRT Process	Senior Director Corporate Quality Europe
<b>EUB-2.50</b>	<b>Risk Control Process</b>	<b>SVP Operations Europe</b>
EUB-2.51	Risk Assessment Process	SVP Operations Europe
EUB-2.52	Escalation Process	SVP Operations Europe
EUB-2.53	Emergency and Recovery Planning Process	SVP Operations Europe
<b>EUB-3.10</b>	<b>Procurement</b>	<b>SVP Procurement Europe</b>
EUB-3.11	Supplier Selection & Validation	SVP Procurement Europe
EUB-3.12	Direct and Indirect Material Sourcing	SVP Procurement Europe
EUB-3.13	Purchase Requisition & Purchase Order	SVP Procurement Europe
EUB-3.14	Price Change Request	SVP Procurement Europe
EUB-3.16	Supplier Evaluation and Development	SVP Procurement Europe
<b>EUB-3.20</b>	<b>Technology</b>	<b>SVP R&amp;D and Engineering Europe</b>
EUB-3.21	Tooling & Process Development	SVP R&D and Engineering Europe
EUB-3.22	Advanced Engineering	SVP R&D and Engineering Europe
EUB-3.23	CAD System & Data	SVP R&D and Engineering Europe
EUB-3.24	Control of Engineering Standards	SVP R&D and Engineering Europe
EUB-3.25	Inventions and Patents	SVP R&D and Engineering Europe
<b>EUB-3.30</b>	<b>Human Resources</b>	<b>SVP Human Resources Europe</b>
EUB-3.31	Recruiting and Staffing	SVP Human Resources Europe
EUB-3.32	Performance Management Process - PMP	SVP Human Resources Europe
EUB-3.33	Employee Motivation & Satisfaction	SVP Human Resources Europe
EUB-3.34	Employee Development & Training	SVP Human Resources Europe
<b>EUB-3.50</b>	<b>Information Technology</b>	<b>Director Global IT</b>
<b>EUB-3.60</b>	<b>Commercial</b>	<b>SVP Commercial Europe</b>
EUB-3.61	Business Development / Sales Management	SVP Commercial Europe
EUB-3.62	Business Management	SVP Commercial Europe
EUB-3.63	VAVE	SVP Commercial Europe
EUB-3.64	Customer Satisfaction	SVP Commercial Europe

Table 2.2: QEHS MS Document Structure

## 2.9 Accidents and Emergencies

IAC Group has a comprehensive health and safety system certified to OHSAS:18001 with detailed emergency response procedures based around the specific risks associated with the site operations.

The key aspects of the procedures are:

- Reviewed by Site Management annually, and as soon as practicable after an accident.
- Considers hazards presented by:
  - emergency shut-down procedures;
  - actions in case of fire/explosion/emergencies;
  - contaminated firewater;
  - failure of any equipment;

- failure of abatement plant;
  - spillages and uncontrolled releases;
  - plant or equipment failure (e.g. blocked drains);
  - vandalism; and
  - flooding.
- Identify events or failures that could damage the environment.
  - Assesses the likelihood and the potential environmental consequences from accidents at the site.
  - Proposes action to minimise the potential causes and consequences of accidents.

### *Incident Reporting*

The reporting of incidents and non-conformities form a key component of the company's management system. Identified non-conformities under the system include, but are not limited to the following:

- Uncontrolled leaks and spillages of any materials with the potential to cause pollution to the environment (paints, unabated dust emissions to atmosphere);
- Non-compliance to any permitted condition or consent limit (emissions excursions, missing of reporting deadlines, breach of any permitted consent limits);
- Internal Audit findings (legal non-compliances, EMS procedural breaches, system non-compliances);
- External and Internal Complaints; and
- Whenever a plant malfunction, breakdown or failure, or any near miss occurs.

The company's management system undergoes periodic external audit and review to ensure that both compliance and continuous improvement is achieved. The management system requires that all identified incidents and non-conformities will be investigated and closed out.

All plant and equipment is PLC controlled, monitored and alarmed, thus ensuring that continuous plant diagnostics can be facilitated.

Furthermore, the site management system includes documented procedures and registers to:

- Ensure that any members of the public/residents are alerted and informed if a significant plant issue arises (fire, explosion etc.);
- Record, report and investigate any internal or external complaints to ensure that any necessary measures are taken to prevent, or where that is not possible to minimise, the causes; and
- Inform any members of the public about the nature of the site, key contacts and sources of further information.

### 3. EMISSIONS & THEIR ABATEMENT

#### 3.1 Emissions to Air

##### *Point-source Emissions to Air*

There are no emissions to air from the proposed foam injecting process.

Due to the presence of no blowing agents as the process is an injection process rather than a spraying process, there are no emissions to air.

#### 3.2 Emissions to Water

##### *Point-source Emissions to Water*

There are no emissions to controlled water or sewer from the process.

#### 3.3 Odour

There are no odour emissions from the proposed foam injecting process.

## 4. ENVIRONMENTAL MONITORING

### 4.1 Emissions to Air

Due to there being no emissions to air from the process, no monitoring will be carried out.

### 4.2 Emissions to Water

There are no emissions to controlled water or sewer.

### 4.3 Odour

There are no odour emissions from the proposed foam injecting process.

In the unlikely event that an odour complaint is received from a local resident or the Council, IAC Group will carry out an investigation to work out the cause of the complaint.

This will involve a trained site operative monitoring odour daily at points around the site boundary and recording the observations in the site diary.

If any odour is detected and is judged to be moderate (Odour Intensity Rank 3) then the Site Manager will be notified immediately and the olfactory survey will continue to attempt to determine the scope and extent of the odour plume, as follows:

- A suitable location downwind of the site and potentially sensitive receptor at which the odour plume is unlikely to extend will be selected for assessment;
- Survey will continue toward the facility until a site-related odour is perceived; and
- Assessment points perpendicular to the plume axis and equidistant from the site will then be monitored, subject to access requirements.

## Annex A: Figures



## Annex B: Material Safety Datasheets

## Annex C: Emergency Procedures

## Annex D: EIMS Manual

## Annex E: Internal Chemical Storage

## Annex F: Demonstration Video