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# Apiezon Environmental Permit (EPR/BS4952IP) – Site Surrender Report

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## Executive Summary

This document represents the Apiezon Site Surrender Report (ASR) for the full surrender of M&I Materials Ltd (M&I) Apiezon Plant installation at Trafford. This is submitted to the Environment Agency in support of the application to surrender Permit No. BS4952IP under 1.2 A (1)(f) (iii) of the Environmental Permitting (England & Wales) Regulations 2016 (as amended) (the 'EPR' Regulations) to the extent authorised by the permit. At the site the obligated process covered is the manufacturing activities involving the *'pyrolysis, carbonisation, distillation, partial oxidation or other heat treatment of oil' for the distillation of petroleum oils and jellies*. Following decommissioning, the Apiezon Plant has been relocated to a new M&I facility. An application has been made to permit the process at the new site.

The entire site infrastructure (permanent site structures) and grounds are within the ownership of M&I. The "Installation" which was defined in the original permit application as being the part of the site which refers to the process currently permitted under the EPR Regulations permit BS4952IP has, along with all areas defined within the wider 'site' been retained within the management control of M&I at throughout this period. This report describes how the necessary measures have been taken to avoid a pollution risk resulting from the operation and decommissioning of the regulated manufacturing facility.

M&I demonstrate that, due to the effective measures employed, land and groundwater have been adequately protected and have not deteriorated due to the operations carried out during the lifetime of the permit and all areas subject to the surrender are therefore judged to be in a satisfactory state. These measures were employed for the operation of the installation as a Low Impact activity.

The decommissioning of the Apiezon Plant was subject to the Site Closure Plan (SCP) (Appendix 1). The SCP presents how the identification of the pollution risks associated with the decommissioning and relocation of the Apiezon Plant was managed through decommissioning. The plan covers the preliminary actions undertaken to facilitate a phased shut down, removal of processing equipment and control philosophy for managing pollution risk which are consistent with measures being considered for the final decommissioning works ahead of the permit surrender.

This report includes the Site Condition Summary and the Statement of Satisfactory State, incorporating descriptions of the infrastructure monitoring that has been undertaken on the site in accordance with the operator's Environmental Management System (EMS) as prescribed by the permit.

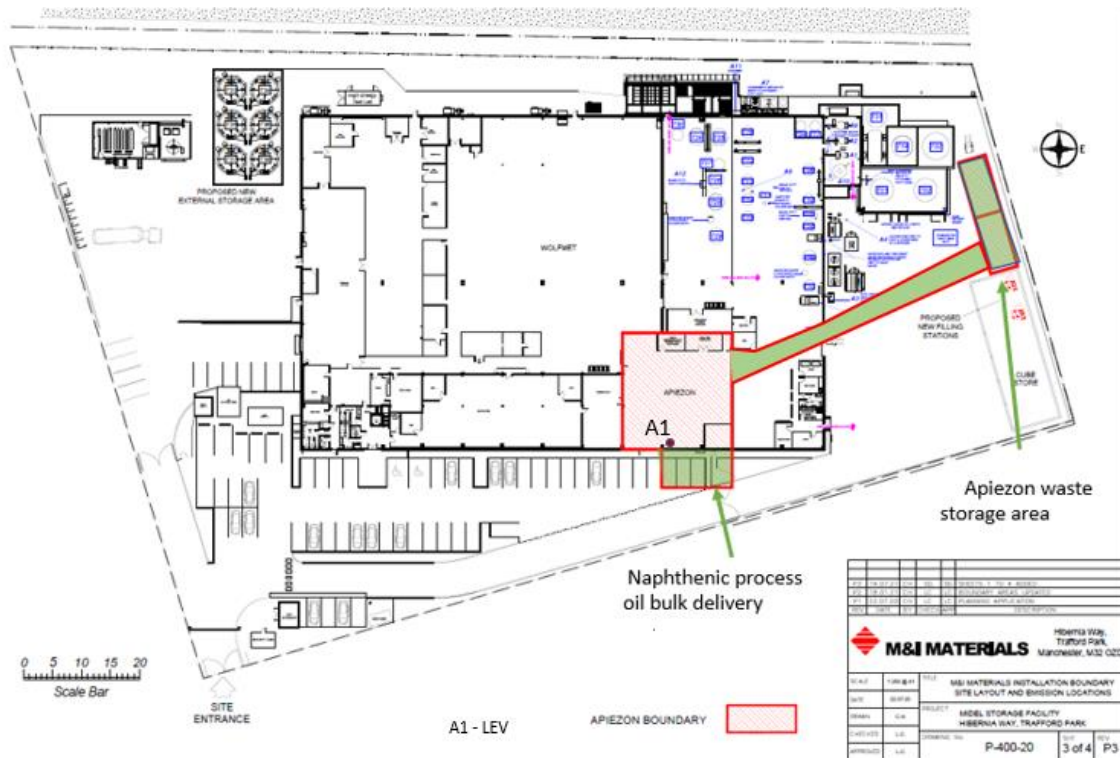
For the purpose of the surrender, it is considered that the installation meets the requirements of a 'low risk' surrender and a satisfactory state for permit surrender following decommissioning subject to the SCP.

## 1 Introduction

EHS Projects Ltd has prepared this Site Surrender Report on behalf of M&I Materials (M&I) for their Apiezon Plant installation at Trafford.

Figure 1 outlines the extent of the physical areas subject to the surrender (Figure 1).

Figure 1 – Current Permit Boundary, areas within the red outline are to be surrendered.



The entire site infrastructure (permanent site structures) and grounds are within the ownership of M&I. The “Installation” which was defined in the original permit application as being the part of the Site which refers to the process currently permitted under the ‘EPR’ Regulations under the management control of M&I.

The installation was first permitted in 2002 as a Low Impact Installation meaning that it is accepted by the EA that the activity intrinsically has only a low environmental impact. At no point has the activity ceased operation and has been subject to regular inspection by the local EA officer. Annually the operator reconfirms the low impact status of the activity which continues to conform with the statements required under the Low Impact Installation criteria specified by the Environment Agency. Evidence to support these statements were reviewed and provided as part of the variation application submitted to NPS August 2021. No changes to the Apiezon process have occurred since the partial surrender application duly made on the 24<sup>th</sup> of July 2022.

During the operation of the regulated installation M&I have had in place Environmental Management System (EMS) covering all activities at the entire site. The EMS has been certified to ISO 14001 since 2009. Throughout the lifetime of the permit there has been no reportable incidents internally or externally to the regulator and no enforcement action taken.

Through the operation of the installation M&I has committed to the premise that site activities for the installation would be planned and implemented to minimise the potential for environmental impact. This is through control of potential pollution, including from materials, surface water, dust, odour, noise and waste. As part of routine operations, the site has implemented appropriate measures to avoid any pollution risk in accordance with the findings of the original site condition report. These operating management techniques are aimed specifically ensuring infrastructure inspection and effective operation control of the process to demonstrate that no deterioration of ground/groundwater condition has occurred.

## 2 Site Details

The Apiezon Manufacturing area is located within M&I Materials' Hibernia Way facility adjacent to the MIDEL plant. The area is divided into a number of smaller zones where the various manufacturing, packaging and warehousing operations are carried out by three skilled operators with at least 10 years direct experience of the plant.

The manufacturing process involved the molecular distillation of refined petroleum products (pharmaceutical grade yellow petroleum jelly or naphthenic oil) to make speciality oils and greases for the vacuum industry which is packaged into tubes (100g maximum) or finished 20 litre (maximum) containers.

The wider site comprises a number of other EPR activities (regulated separately) are undertaken including the manufacture of synthetic esters and for the blending and heating of alloying powders to create specialist alloys. These are self-contained discrete production units contained within the main building within the main unit alongside a silicon carbide varistor manufacturing plant. All are unconnected with the distillation of petroleum oils and jellies.

The site is accessed via Hibernia Way and comprises a single main building with other facilities including external storage areas in addition to office space, and adjacent car parking. The Site has an average elevation of approximately 26m above Ordnance Datum (aOD). Topographically the Site is relatively flat. The Site is located within an area of mixed industrial and commercial. Land uses in the immediate vicinity include the following principal features:

Direction	Land Use
<b>North</b>	The Site is bound to the north and northeast by the Bridgewater Canal with industrial and commercial developments beyond.
<b>East</b>	The Site is bound to the east and southeast by several industrial and commercial developments including a distribution warehouse and offices.
<b>South</b>	The Site is bound to the south by a commercial storage unit and offices with a road (Brightgate Way) which provides access to the surrounding trading estate.
<b>West</b>	The Site is bound to the west by a manufacturing unit with further industrial and commercial land beyond.



*Figure 2: Site location*

The external surfaces of the Site, yard areas and internal roadways are all concrete hardstanding are in a good state of general repair. All materials including waste are located on areas of high integrity concrete.

The Site is serviced by a manned 24hour security and is fully enclosed by a chain and link perimeter fence. The roadways and perimeter are covered by CCTV cameras. There is no history of unauthorised access or historical records of any pollution incident.

## 2.1 Above Ground Storage Tanks (AST)

Within the installation is a single 5000 litre oil tank served by a 8000 litre capacity bund located internally adjacent to the production area for the storage of Nyflex 8030, a naphthenic oil. The delivery area is located external to the production area with coupling through the building for offloading to the bulk tank. Deliveries are supervised by the site services team.

Regular checks and inspections were made at the Site which includes inspections of the plant operations and infrastructure (tanks and pipework) associated with storage of substances.

## 2.2 Raw Materials and Product Storage

The operation at the installation is associated with the delivery, storage, handling and use of various substances (Materials Inventory - Appendix 2). All materials are stored internally on areas of hardstanding high integrity concrete.

Regular checks are made, which comprises visual inspections of storage facilities and bunds at the Site.

## 2.3 Waste Management

All waste materials generated by the installation were transferred to externally located self-bunded metal lockable drum storage unit. The yard in the vicinity of the container is hard standing served by the combined surface water and foul drains that discharge to public sewer after the interceptor.

## 2.4 Site Drainage Layout

The site holds a detailed drainage layout plan which shows the as built drainage layout from when the site was developed in 2001. The drainage arrangements were newly constructed when the site was developed.

The drainage layout includes foul and surface water drains which all run to a common combined drainage point at the front of the site by the gatehouse. A Decathlon III Drainage System is also in place on three sides of the building including both yard areas and the front of the building which consists of a drainage run with a slotted surface which captures all surface run-off and feeds into the main drainage system prior to the final release point. The approximate capacity of the decathlon drainage runs is 14m<sup>3</sup> in the drains alongside the Midel yard and along the front of the building (approximately 112 metre drainage run with equivalent pipe diameter of 400mm), and an additional 3m<sup>3</sup> along the yard on the opposite side of the building (approximately 60 metre drainage run with equivalent pipe diameter of 250 mm). An Envirovalve is in place prior to the final release point to the drains on Hibernia Way which can be operated from the gatehouse to prevent effluent or spills leaving site if required. In addition, an interceptor is in place prior to the final release point with a capacity of 5.03m<sup>3</sup>. There is a rain capture tank in place beneath the car park to the front of the building, which provides attenuation in the event of heavy rainfall, which captures surface water run-off from the roof drains, this provides 130m<sup>3</sup> of capacity.

The entire site is curbed except at the entrance to the site by the security gatehouse.

### 3 Condition of the Land at Permit Issue

The environmental setting of the installation and condition of the land at permit issue was described within the original Site Condition Report (SCR) reference MMI002/1 dated 2001 (Appendix 3) which was completed to support the permit application at that time.

The findings of the SCR identified that whilst due to the previous use of the site (vehicle maintenance) historical contamination may be present that historical investigations, following remediation prior to the development of the facility, presented baseline conditions that are representative of the background levels of relevant hazardous substances that may be associated with the installation activities; petroleum hydrocarbons across the whole site (Appendix 3). Quantitative data was submitted at the time of permit application for the area of the site covered by the installation. This report and associated data is considered to be representative of both the area of the installation to be surrendered.

The original SCR concluded that there was little likelihood of ongoing contamination pollution or leaks to land would occur during the future life of the installation and no remedial or environmental monitoring was required. The operating techniques including planned preventative management and maintenance systems have continued to be in place and are judged to be appropriate in mitigating against the possible future impact of leaks / spillage upon the ground. These include but are not limited to the following:

- Daily site/services engineering inspection of area including processing equipment, tanks and associated pipe work – actions recorded on Shire electronic maintenance system and closed out.
- Monthly site inspection by SHE personnel of all internal and external areas including housekeeping, infrastructure including secondary and tertiary hardstanding (example completed forms can be reviewed in Appendix 4) – observations reported within SHE management systems action tracker.

These control measures are deemed suitably robust to minimise the potential for pollution from the installation and were further verified by periodic audits. This included but was not limited to:

- Compliance Assessment Inspections by EA (see Appendix 5).
- 6 monthly surveillance and 3 yearly re-certification audit of ISO 14001 EMS by certification body.
- Annual compliance audits undertaken by specialist third party.
- Recent partial surrender (duly made on 24/07/2022, determined 20/10/2022) in of part of the installation was accepted by the EA with no concerns raised with respect to ground and groundwater risk.

Subsequent site meetings held alongside permit inspections confirmed the view of the regulator that throughout the period of active operation that the site continues to present little risk of pollution to ground and groundwater. As such, no additional environmental monitoring infrastructure or intrusive investigations were proposed on permit issue.

Whilst quantitative data is available to allow comparison with baseline condition due to the lack of evidence of there being any pollution incident or loss of containment, the condition of the land is justified to be in the same state as when the permit was issued for the purpose.

The review of the original site report has resulted in the following conclusions have been drawn:

- The processes followed to produce the original site report does not conform to the structure but does largely present the required contents of EC Commission Guidance on Baseline Reports (2014/C 136/03) and the environment Agency H5 guidance;
- The identification and assessment of relevant hazardous substances has fallen out of date;
- The assessment of quantities of relevant hazardous substances held on site has fallen out of date;



- The assessment of the pollution prevention measures for relevant hazardous substances has fallen out of date;
- The site history and environmental setting presented in the original report remains the same and meets the requirements of the EC and EA guidance.

As a result, the following has been undertaken:

- The identification and characterisation of relevant hazardous substances to reflect current usage and hazard classifications (see Appendix 2)
- The assessment of the pollution prevention measures for relevant hazardous substances (see Appendix 2);
- The overall risk assessment requires updating in the light of updated assessment of relevant hazardous substances (see Appendices 2 and 3).

## 4 Measures Taken to Protect the Land

### 4.1 Environmental Considerations During Facility Operation

The specific environmental implications of the site's previous activities have been determined from assessments reported as part of the original permit application. As part of the operation of the site a formal management system was put in place with additional measures to control significant environmental aspects, which could lead to pollution incidents from the permitted activities. Measures used to protect land are included within the site's Environmental Management System (EMS). The operation of the EMS to ISO 14001 led to the implementation of further internal control measures to protect the land. The key issues of relevance to the permit and installation are summarised as:

- Chemical storage and handling activities only took place in areas that have an impervious concrete floor and provide for primary, secondary and tertiary containment measures against loss to land or water;
- An inspection and maintenance program was put in place to cover the concrete raft making up the floor of the areas within the installation (internal and external) and was operated during the permitted period;
- Tank integrity, damage to plant, corrosion to steelwork and associated works and bunded areas were inspected to a schedule as part of the site services maintenance system;
- Inspection schedules required examination of all individual concrete rafts for general surface condition, cracks, holes / depressions and were carried out to a monthly;
- All materials delivered to site have been subject to supervision during offloading activities.

In order to permit efficient maintenance of the process equipment each item of plant was serviceable. To ensure proper operation and maintenance of the process equipment, M&I complied (at a minimum) with the equipment manufacturers recommended operation and maintenance procedures.

### 4.2 Environmental Considerations During Decommissioning

See Site Closure Plan, Appendix 1.

### 4.3 Formal Management Systems

Throughout the period of operations under the permit the site has operated formal environmental and asset protection management systems to ensure ongoing management, maintenance and improvement of environmental controls. Various documented and undocumented procedures were developed and implemented to ensure effective operational control of environmental interactions, including planned preventative maintenance, inspection, and testing of critical infrastructure. M&I have maintained and review the formal ISO 14001:2015 management system certification since 2009.

The company operates an EHS Reporting System to encourage all staff to report any potential environmental risks around the site through the non-conformance/incident reporting forms, corrective and preventative





action. The purpose of these procedures was to ensure that identified hazards relating to health, safety and environmental concerns are reported, recorded and investigated in a consistent, systematic manner in compliance with the health, safety and environmental requirements. The procedures identified any potential non-conformances and detailed such preventive actions as were necessary to mitigate any consequences arising from such observations.

#### 4.4 Materials Handling and Bulk Storage Infrastructure

All deliveries were supervised by trained staff. The internal above ground bulk internal storage tanks on site were located within concrete/brick bunds of sufficient capacity. All pipework and pumps used to transport raw materials were located above ground, labelled and regularly inspected.

#### 4.5 Planned, Preventative Maintenance Programme

During the lifetime of the permit, M&I operated a formal planned, preventative maintenance program. Of specific relevance to the environment, in summary these control measures consisted of:

- inspection of all storage areas, bunds etc for spillages or leaks by an operator;
- periodic inspection was conducted investigating visual integrity of the tanks and bunds including checks on valves, pumps etc.

Inspections look for issues such as general damage to equipment, leaks, loose fittings or connections, excessive heat or noise emissions levels. As a result of these inspections any maintenance or improvements were then carried out by an in-house maintenance team backed up by external contractors as required.

None of the inspection records record any incidents that could have released polluting materials to ground or groundwater. All records where observations were made can be categorised as minor issues that were then dealt with as part of the routine operational procedures for site management e.g. noting a small spillage in bund requiring checking and appropriate disposal.

The management system's checks and balances operated from the date of first permit issue to date show that there are no records of incidents that could have resulted in environmental impacts such as pollution of ground or groundwater.

## 5 Pollution Incidents That May Have Had an Impact on Land.

There have been no Schedule 5 notifiable incidents throughout the operation of the permit or reported within the EMS beyond minor spillages categorised as minor issues that were then dealt with as part of the routine operational procedures by site management. These posed no pollution risk and were not reported to the regulator.

During the lifetime of the permit, it is concluded that have therefore been no records of pollution incidents that may have damaged the ground or groundwater conditions and there were no reportable pollution incidents that may have impacted on ground or groundwater. Through EA sign off of investigation the operator is therefore able to demonstrate that, due to the effective measures employed, land and groundwater have been adequately protected and have not deteriorated due to the operations carried out during the lifetime of the permit and are therefore judged to be in a satisfactory state.

## 6 Soil Gas and Water Quality Monitoring (Where Undertaken)

No soil gas or water quality monitoring have been undertaken during the lifetime of the permit.

## 7 Decommissioning and Removal of Pollution Risk

A Site Closure Plan, including the environmental controls exercised in the decommissioning plan is available in Appendix 1.

## 8 Reference Data and Remediation (Where Relevant)

There are no records of pollution incidents that may have damaged the land or represent actual or potential for further on-going risk. The condition of the land has been justified to be in the same state as when the permit was issued.

## 9 Statement of Site Condition

During the lifetime of the permit to date there have been no records of pollution incidents that may have damaged the ground or groundwater conditions and there were no reportable pollution incidents that may have impacted on ground or groundwater condition, during operation or as a result of the change in the layout of the installation. Through EA periodic inspection of the installation and wider regulated site operations and sign off of the annual report the operator is therefore able to demonstrate that, due to the effective measures employed, land and groundwater have been adequately protected and have not deteriorated due to the operations carried out during the lifetime of the permit and are therefore judged to be in a satisfactory state.

For the purpose of supporting the permit surrender the following statement can be made:

‘The permitted activities on the proposed surrendered areas have been undertaken in accordance with the existing low impact environmental permit and the operator’s management system. The management system set out the measures to protect the land condition from the permitted activities. It is therefore considered that the proposed surrender area has not been impacted in comparison to the baseline condition.’

## 10 Updated Environmental Risk Assessment and Conceptual Site Model

The methodology of this risk assessment uses the source-pathway-receptor pollutant linkage to provide a qualitative appraisal of environmental risks and potential liabilities associated with soil and groundwater contamination at the Site.

The conceptual site model (CSM) is prepared based on the current continued use as a materials manufacturer in the production of synthetic esters and specialist engineering materials and the installation of additional bulk storage and transfer line.

### Conceptual Site Model: Potential Contaminant Sources (whole installation)

Source	Pathway	Receptor	Risk
<b>On-Site Sources</b>			
Former use as a depot and current use as a materials manufacture (the distillation of	Dermal contact, ingestion and inhalation pathways	Current site users	<b>Low</b> The Apiezon footprint of Site is covered in concrete hard standing which is in good condition and would mitigate against contact with

Source	Pathway	Receptor	Risk
<p>petroleum oils and jellies).</p> <p>Storage of various chemicals including drums and above ground storage tanks.</p> <p>Potential presence of Made Ground from previous development of the Site.</p> <p>Potential contaminants such as hydrocarbons.</p>			<p>potential contaminants in soil and groundwater associated with historic contamination.</p> <p>Presence of site hardstanding, containment and operational practices / inspections / maintenance will mitigate potential risk to underlying soils and groundwater from current and proposed permitted operations.</p>
		Neighbouring residents	<p><b>Low</b></p> <p>Presence of superficial Glaciofluvial Sheet Deposits, Devensian (Secondary A Aquifer) and bedrock Wilmslow Sandstone Formation (Principal Aquifer) may allow for migration of potential contamination off-site.</p> <p>As above, presence of engineered hardstanding and containment will act to limit potential for surface contaminant release to impact underlying soils and groundwater.</p>
	Leaching of contaminants and vertical migration into groundwater	Controlled waters	<p><b>Low to Moderate</b></p> <p>Presence of sensitive groundwater bodies underlying the Site (Secondary A Aquifer and Principal Aquifer) may be sensitive to contaminant release at surface.</p> <p>The presence of concrete hardstanding will mitigate potential pathways. It is also understood that regular checks and audits are made at the Site which includes inspections of the plant operations and storage of substances.</p>
<b>Off-Site Sources</b>			
Surrounding historical and current industrial / commercial land uses including dye works, chemical works, steel	Dermal contact, ingestion and inhalation pathways	Current site users	<p><b>Low</b></p> <p>The Apiezon footprint of Site is covered in concrete hard standing which is in general good condition, which would mitigate against contact</p>



Source	Pathway	Receptor	Risk
works, engineering and various depots and warehouses.			from any potential off-site contaminants.
Potential contaminants such as hydrocarbons.	Migration via groundwater	Controlled waters	<b>Low to Moderate</b> Presence of sensitive groundwater bodies underlying the Site (Secondary A Aquifer and Principal Aquifer) may be sensitive to contaminant release at surface.
	Leaching of contaminants and infiltration into groundwater	Controlled waters	<b>Low to Moderate</b> Presence of sensitive groundwater bodies underlying the Site (Secondary A Aquifer and Principal Aquifer) may be sensitive to contaminant release at surface.



## Appendix 1 – Apiezon Site Closure Plan



## Appendix 2 – Apiezon Materials Inventory



## Appendix 3 – Site Condition Report 2001



## Appendix 4 – Example HSE Walkover Check Sheet





## Appendix 5 – Example EA Compliance Assessment