

Environmental Risk Assessment

Report Ref: ITM - EP001 - 005

Submitted to:

Environment Agency

In Support of Permit Application Ref:

EPR/HP3640QD/A001 & EPR/AP3225SE/P001

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Date: 14th September 2023

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1. Introduction

1.1 Introduction

ITM Power (Trading) Limited are applying for an Environment Permit that allows them to operate a hydrogen electrolyser manufacturing facility located on Shepcote Land, Sheffield, S9 1DZ.

As part of the permit application process, the site is required to demonstrate how potential environmental risk and impacts of their operations have been identified, quantified and controlled/mitigated. This ‘Environmental Risk Assessment’ (ERA) is a systematic evaluation of these potential risks and impacts. The methodology and results for this assessment process are presented in this report, which should be read in conjunction with the other permit application documents.

1.2 General Approach

This ERA is based on the Source-Pathway-Receptor model as outlined in the EA’s guidance:

<https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

The latest guidance on conducting a risk assessment sets out the following assessment steps:

1. *Identify and consider risks for your site, and the source of the risks.*
2. *Identify receptors (people, animals, property, and anything else that could be affected by the hazard) at risk from your site.*
3. *Identify the possible pathways from the sources of the risks to the receptors.*
4. *Assess risks relevant to your specific activity and check they’re acceptable and can be screened out.*
5. *State what you will do to control risks if they’re too high.*
6. *Submit your risk assessment as part of your permit application.*
7. *You must also include a copy of your risk assessment in your management system.*

The EA guidance also states:

In your risk assessment you must identify whether any of the following risks could occur and what the environmental impact could be:

- *Any discharge, for example sewage or trade effluent to surface or groundwater*
- *Accidents*
- *Odour (not for standalone water discharge and groundwater activities)*
- *Noise and vibration (not for standalone water discharge and groundwater activities)*
- *Uncontrolled or unintended (‘fugitive’) emissions, for which risks include dust, litter, pests and pollutants that should not be in the discharge*
- *Visible emissions, for example smoke or visible plumes*
- *Release of bioaerosols, for example from shredding, screening and turning, or from stack or open point source release such as biofilter*

If you do not think any of the above present significant risks, then you need to state why in your permit application.

You can ‘screen out’ potential risks from emissions to air, discharges to water or deposition onto land by carrying out tests to check whether they are within acceptable limits or environmental standards. If they are, you do not need to do any further assessment of the pollutant because the risk to the environment is insignificant. The different risk assessments for specific activities explain ‘screening out’ in more detail.

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1.3 Detail of Approach

1.3.1 Risk Assessment conditions

The impact and risk assessments for both normal operations and for reasonably foreseeable accident and abnormal conditions has been carried out below. The following definitions are used for assessing possible impacts under the different scenarios or operating conditions:

Normal (N) Routine activity on site

Abnormal (A) Planned, or reasonably foreseeable, deviations from normal operating conditions

Emergency (E) Unplanned deviations from normal operating conditions (accident situations)

1.3.2 Scenario Screening

The initial step is an assessment to screen out the processes and ancillary operations that, even under the reasonably foreseeable abnormal and emergency conditions identified, would be incapable of causing a significant environmental impact. The screening process assesses intrinsic hazard, relative quantity, infrastructure and potential pathways. Where an evaluation of these factors determines a potential plausible risk then further assessment has been carried out below.

Those aspects that do not screen out fall into two categories for more detailed evaluation:

- Normal, abnormal and accident scenarios for which there is a need to carry out a detailed environmental risk assessment. This is provided in section 2.5 below.
- Emissions under normal operations for which a more detailed assessment of environmental impacts is required (See section 1.3.3 for more details).

1.3.3 Detailed Risk Impact Assessments

This risk assessment shows that no further detailed Risk Impact Assessments are necessary for the installation.

1.4 Report Format

This Environmental Risk and Impact Assessment is set out as follows:

- Introduction;
- Environmental Risk Assessment;

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2 Environmental Risk Assessment

2.1 Introduction

The screening assessment above has identified several possible scenarios where normal operations, abnormal operations or emergency (accident) situations might have the potential to lead to an environmental impact.

The evaluation methodology utilised within this report is set out below and has been based on principles outlined on the Environment Agency’s ‘gov’ website. The assessment has been undertaken by identifying the potential sensitive receptors and applying the risk scoring mechanism detailed below.

2.2 Sources

Utilising a combination of information with ITM-EP001-007 (Installation information), setting realistic thresholds for assessment, and evaluating the processes undertaken at the facility, the following methodology has been used to identify potentially viable sources that will require evaluating with this risk assessment:

- Raw material delivery (Hazardous chemicals)
- Potentially hazardous materials stored in containers above 50 litres (externally)/ 200 litres (internally)
- Potentially hazardous waste stored in containers above 50 litres (externally), 200 litres (internally)
- Potentially hazardous raw material transfer
- Raw material storage (includes hazardous chemicals)
- Process (for processes where emissions to air, water, sewer, land could occur)
- Boilers/heat source equipment
- Waste transfer and storage
- Waste removal off site
- Vehicle use and storage (due to presence of oils/fuels)
- Effluent drains
- Fire water
- Refrigeration systems

Notes:

Hazardous has been defined as, ‘containing properties that could adversely impact on air, water, land, ecosystem’.

The risk assessments provided further below will utilise each potential sources identified and assess the viability and risk of them moving via a defined pathway to potentially impact on a receptor. Where a valid S-P-R linkage exists, control measures and a risk rating has been provided.

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2.3 Receptors

2.3.1 Receptor Identification

The following guidance has been used to identify the sensitive receptors for the Installation:-

<https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas>

Check if there are any of the following within 10km of your site (or within 15km for coal or oil fired power stations):

Special protection areas (SPAs)

Special areas of conservation (SAC's)

Ramsar sites (protected wetlands)

Check if there are any of the following within 2km of your site:

Sites of special scientific interest (SSSI's)

Local nature sites (Ancient woods, local wildlife sites and national and local nature reserves)

Some larger (greater than 50 megawatt) emitters may be required to screen to 15km for European sites and 10km or 15km for SSSIs. Relevant screening distances should be discussed at pre-application.

In addition, the following receptors have been assessed, all as the closes point to the Installation boundary in each major compass direction:

- Human receptors, either as individual property or the closest point of a block, references as residential, industrial/commercial/educational, recreational, hospital.
- Road network (closest only)
- Priority habitat, within 2km
- Water receptors (watercourses, ponds, lakes, reservoirs, open drainage channels), within 1 km or if there is a direct connection

Other relevant environmental risk information (e.g., Air Quality Management Areas (AQMA) and flood zones) are also provided.

The sources of information to identify all of the above are listed within table 2.1 notes.

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2.3.2 Identified Receptors

| Table 2.1: Summary of Sensitive Receptors Identified | | | | |
|---|---|--|---|-----------------------------------|
| Nature of Receptor | | Direction | Approximate Distance from the Proposed Installation Boundary³ | Plan Reference⁵ |
| Human Receptors | | | | |
| Residential | | N | c.110m | R1 |
| Commercial/Industrial | | N | c.50m | R2 |
| Commercial/Industrial | | W | c.50m | R3 |
| Commercial/Industrial | | E | c.20m | R4 |
| Watercourse and Ground Receptors | | | | |
| Canal | Sheffield and South Yorkshire Navigation | W | c.50m | W1 |
| Groundwater Status | | Site is not located within a Groundwater Source Protection Zone. | | |
| Nature and Conservation Receptors | | | | |
| Local Nature Reserve (LNR) ^{1,7} | Woolley Wood | NW | c.1950m | H1 |
| Priority Habitat Inventory ¹ | Deciduous Woodland (England) | E | c.260m | H2 |
| | Deciduous Woodland (England) | SW | c.350m | H3 |
| | Deciduous Woodland (England) | N | c.565m | H4 |
| | Deciduous Woodland (England) | E | c.870m | H5 |
| Local Wildlife Site (LWS) ^{7,8} | Sheffield and South Yorkshire Navigation | W | c.50m | H6 |
| | Lower Don Valley: Disused Railway, Meadowhall | W | c.50m | H7 |
| | Wincobank Hill | NW | c.1690m | H8 |
| | Bawtry Road Wetlands | SE | c.1280m | H9 |
| | Lower Don Valley: Sheffield & Tinsley Canal | W | c.180m | H10 |

| | | | | |
|---|--|----|----------|-----|
| | Seventy Acre Hill | S | c.2072m | H11 |
| | Tinsley Ponds (Europa Link) | SE | c.1880m | H12 |
| | Blackburn Brook | NW | c.1990m | H13 |
| | Blackburn Meadows | NW | c.1700m | H14 |
| | River Don (City Centre to Blackburn Meadows) | N | c.530m | H15 |
| Protected Species | European Eel Migratory Route | N | c.500m | H16 |
| Ecological Screened Receptors ¹ | No Special Protection Areas (SPA's) within 10km of the installation boundary | | | |
| | No Special Areas of Conservation (SACs) within 10km of the installation boundary | | | |
| | No Ramsar sites (protected wetlands) within 10km of the installation boundary | | | |
| | No Sites of Special Scientific Interest (SSSIs) within 2km of the installation boundary | | | |
| | No Ancient Woodland within 2km of the installation boundary | | | |
| | No National Nature Reserves within 2km of the installation boundary | | | |
| Other Receptors | | | | |
| Highways and transportation ² | Public Highway | E | c.20m | T1 |
| Highways and transportation ² | Public Highway | W | Adjacent | T2 |
| Air Quality Management Areas ⁴ | The whole installation is located in an Air Quality Management Area for PM10 particulates and SO2. | | | |
| Flood Risk Status ⁶ | All of the installation is located in a Flood Zone 1 – Land having a less than 1 in 1,000 annual probability of river or sea flooding. | | | |
| <p>Notes</p> <ol style="list-style-type: none"> 1. Receptors identified using the MAGIC Website (unless stated), Jan 2023 2. Closest local road network only, identified on OS mapping 3. Distance shown measured using Ordnance Survey data 4. AQMA locations reviews through DEFRA's website – Jan 2023 5. Locations shown on Sensitive Receptor Plans, report Ref ITM-EP001-004 (Copy provided in section 2.3.3 below) 6. Flood Zone identified using the Gov's Flood map for planning - GOV.UK (flood-map-for-planning.service.gov.uk), Jan 2023 7. Sheffield and Rotherham Wildlife Trust 'State of Nature' report 2018 8. Local Wildlife Sites identified using Sheffield Local Wildlife Sites, (Sheffield Local Wildlife Sites - data.gov.uk) https://www.data.gov.uk/dataset/4a392a7d-67b8-4a91-a82d-f871054850d1/sheffield-local-wildlife-sites, Jan 2023 | | | | |

2.3.3 Receptor Location Plan

See Site Location Plan ITM – EP001 – 004 for location of sensitive receptors.

2.3.4 Receptor Linkages

For this facility, the following details are relevant to the potential for linkages to exist from defined source via plausible pathways to the identified receptors.

| Table 2.2: Receptor Linkages | | |
|--|--|---|
| Risk Issue | Receptor Impacted | Relevant Information |
| Noise | Human occupation | Closest receptor located within c. 20m to the East of the installation boundary, with others at 50m to the W and E, and 110m to the N. Public carriageway is located adjacent to the W. |
| Dust | Human occupation | Closest receptor located within c. 20m to the East of the installation boundary, with others at 50m to the W and E, and 110m to the N. Public carriageway is located adjacent to the W. |
| Litter | Human occupation | Closest receptor located within c. 20m to the East of the installation boundary, with others at 50m to the W and E, and 110m to the N. Public carriageway is located adjacent to the W. |
| Pests | Human occupation | Closest receptor located within c. 20m to the East of the installation boundary, with others at 50m to the W and E, and 110m to the N. Public carriageway is located adjacent to the W. |
| Potentially hazardous liquid materials/ leaks, spills, uncontrolled discharges | Surface watercourses | No direct link to surface water from site. Yard and car park surface water drains and trade effluent drains – all discharge to Yorkshire Water waste water treatment plant. |
| Air emissions | Atmosphere impacted either locally or globally Humans Protected Habitats | Closest receptor located within c. 20m to the East of the installation boundary, with others at 50m to the W and E, and 110m to the N. Public carriageway is located adjacent to the W. Closest habitats at 100m to the W and 180m to the E. |

These receptor linkages have been used, where relevant, within the Environmental Risk Assessment tables in section 2.5 below.

2.4 Environmental Risk Assessment Methodology

The risk assessment has been undertaken for each feasible potential environmental risk for normal operations, abnormal operations and accident situations, taking into account the control measures employed on site. The

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risk classification assigned has been evaluated by assessing the likelihood of an incident occurring and the severity of impact should it occur, using the following methodology.

Table 2.3: Probability of an event occurring

| Score | Description | Definition |
|-------|-------------|---|
| 1 | Very Low | Extremely unlikely to occur (<1 per 10 years) |
| 2 | Low | Unlikely to occur (<1 per year) |
| 3 | Moderate | Could occur (1 per year) |
| 4 | High | Could occur frequently (>1 per year) |
| 5 | Very High | Could occur continuously |

Table 2.4: Severity of impact should the event occur

| Score | Description | Definition |
|-------|-------------|---|
| 1 | Very Low | Negligible impact |
| 2 | Low | Minor impact (contained in localised area on site &/or recoverable) |
| 3 | Moderate | Medium impact (contained within site boundary &/or recoverable) |
| 4 | High | Major impact (spread off site &/or difficult to recover &/or damage caused) |
| 5 | Very High | Major impact (spread off-site & long term/permanent damage) |

Risk Assessment Scores:

The Probability (P) and Severity (S) scores assigned to each item are then multiplied together to provide a total risk assessment score (R):

$$P \times S = R$$

Scores are considered to be high, medium or low risk using the following risk classification:

- ≤ 6 – Low Risk – Insignificant** No further actions needed
- ≥7 ≤ 11 – Medium Risk** Whilst risk are acceptable, it’s an area that will be reviewed periodically and any opportunities to decrease the risks will be implemented where feasible
- ≥12 – High Risk – Significant** Where the residual risks are found to be significant (HIGH), a more detailed assessment will be undertaken, or further controls and mitigation measures considered in order to attempt to lower the risks to a more acceptable level.

| Risk Matrix | 1 | 2 | 3 | 4 | 5 |
|-------------|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |

Where the residual risks are found to be significant a more detailed assessment will be undertaken, or improvements to mitigate the risks will be recommended within this report.

2.4.1 Key Policies and Procedures

The procedures and policies in place at the site to minimise the potential for environmental risk form part of the Environmental Management System and are summarised within the report references ITM-EP001-008. These procedures, along with the identified impact control measures discussed in the tables below, have been taken into consideration with calculating the residual risk.

EMS procedures relevant to control of environmental risk, which will be in place at this facility include:

| Table 2.5: relevant EMS Documents | |
|--|---|
| EMS reference | Document Title |
| ITM-EP001-006 | Environmental Accident management Plan |
| EMS 01-003 | Fugitive Emissions Monitoring Programme |
| EMS 02-002 | Emergency, Incident & Non-Conformance Procedure |
| BP-HSE-017 | Spill Control Procedure |
| EMS 02-006 | Delivery and Collection Procedure |
| BP-HSE-026 | Waste Management Process |
| EMS 02-008 | Hazardous Substance Storage Procedure |
| WI-HSE-028 | Workplace Inspection Procedure |
| EMS 03-001 | Incident and Corrective Action Report Form |
| EMS 03-002 | Environmental Inspection Form |

2.5 Risk Assessments

2.5.1 Introduction

The tables set out below detail the risk assessments undertaken based on the methodology outlined above, for all relevant site-based activities.

2.5.2 Table Key

P = Probability (likelihood of an event occurring)

S = Severity (Impact/Consequence of an event occurring)

R = risk Level (Score is contingent on controls being fully implemented)

1 = All contingency planning requirements are dealt with in the Environmental Accident Management Plan and associated procedures

2 = Applicable operating conditions: N – Normal; A – Abnormal; E – Emergency (accident).

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2.5.3 Assessment Tables

| Table 2.6: Environmental Risk Assessments | | | | | | | |
|---|---|--|----------------------------|---|--------------------------|---|----------|
| Description of potential hazard source | Identification of Potential Risks | | | Control Measures | Residual Risk Assessment | | |
| | Initiating Event / Mechanism | Receptors and initial Environmental Risk evaluation (S-P-R linkage without controls) | Applicable condition N/A/E | Risk Management Controls | P | S | R |
| Delivery / collection of potentially hazardous materials to and from site Vehicles Raw Materials (EMS 06-003) Wastes (EMS 06-004) | Noise from site due to vehicles moving / unloading / loading, including the sound from vibrating parts. Noise is more likely to be an issue in still conditions. | Noise - Humans. Potential for noise to cause impact and nuisance on neighbours (irritation/disturbance/impact on sleep / lower standard of living) | N/A/E | Company vehicles maintained under service contracts to minimise the potential of noise emissions from vibrating parts. Site speed limit. Vehicle engines switched off once parked. Distances travelled on site minimal. Deliveries constrained to the hours of 8am-5pm. | 3 | 2 | 6 |
| | Dust from the delivery of ancillary raw materials to site. No friable materials of note used on site. | Dust - Humans. Potential for dust to cause impact and nuisance to neighbours (irritation/cover cars/washing/windows/lower standard of living) | Not applicable – no source | Not applicable – no source | 1 | 1 | 1 |
| | Delivery / collection vehicle containment failure &/or collision leading to: <ul style="list-style-type: none"> significant spillage of materials from vehicle | Surface water course Risk of impact at wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Parts cleaning chemicals are toxic to aquatic environment in undiluted form. | A/E | All site roads and delivery and collection yard covered by concrete. Spill kits provided on site. No speed ramps upon which vehicle fuel tanks could be damaged. Minimal vehicle movements on site. | 3 | 3 | 9 |

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| | <ul style="list-style-type: none"> leaks from site tanks/vessels Leaks from vehicle fuel tanks <p>Hazardous liquids include laboratory effluent, undiluted cleaning chemicals, acids, oils, and coolants.</p> | Laboratory effluents are classed as toxic to aquatic organisms due to coating effects. | | Inspections of storage areas to ensure fit for purpose, IBC Containers are stored in secondary containment storage cabinet. | | | |
| | <p>Delivery / collection vehicle containment failure &/or collision leading to:</p> <ul style="list-style-type: none"> significant spillage of materials from vehicle leaks from site tanks/vessels Leaks from vehicle fuel tanks <p>Hazardous liquids include laboratory effluent, undiluted cleaning chemicals, acids, oils and coolants.</p> | <p>Groundwater – Leaks or spills of materials to ground and groundwater.</p> <p>Groundwater could be in hydraulic continuity with watercourse.</p> <p>Undiluted cleaning chemicals are toxic to aquatic environment.</p> <p>Fuels are classed as toxic to aquatic organisms due to coating effects and can cause long term groundwater contamination.</p> | A/E | <p>All site roads and delivery and collection yard covered by concrete.</p> <p>Site speed limit. Acids and oils in IBCs and drums, limiting quantities. IBCs and drums stored in bunded facility</p> <p>Provision of spill kits at delivery / collection points. Maintenance and inspection system ensures hardstand and bunds are checked and repaired as necessary, preventing losses.</p> | 3 | 3 | 9 |
| Fire / fire water | Site fire | <p>Fugitive Air Release - Humans</p> <p>Surface water drains, effluent drains – Risk of impact at wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Risk of impact at surface water drain adjacent to N.</p> | A/E | <p>Firefighting equipment present on site. Spill kits – to prevent fire water entering site drains. Hardstand inspection and repairs Extensive yard area & car park hardstanding can be used for containment.</p> | 1 | 4 | 4 |

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|--|--|--|-------|---|---|---|----------|
| | | Groundwater - Leaks or spills of materials to ground and groundwater. Firewater can contain contaminants which could be detrimental to surface water and groundwater | | | | | |
| Raw Material storage All potentially hazardous raw materials are listed on EMS schedule EMS- 06-003 Chemical IBCs and oil drums | Storage containment failure leading to significant spillage of materials, including materials that are toxic to aquatic environment. | Surface water drains, effluent drains – Risk of impact at wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Risk of impact at surface water drain adjacent to N. Acids and oils are toxic to aquatic environment. Fuels are classed as toxic to aquatic organisms due to coating effects | A/E | Hazardous materials which are stored externally are stored in drums & IBCs within locked bunded bulk stores. Maintenance oils and production chemicals are stored in small capacity containers (<100 litres) internally on hardstanding. Therefore, failure of containment will lead to minor spill and minimal potential to enter drains. Spill kits on site Routine inspections of storage areas will form part of the EMS | 3 | 3 | 9 |
| | | Groundwater - Leaks or spills of materials to ground and groundwater. Acids and oils are toxic to aquatic environment. Fuels are classed as toxic to aquatic organisms due to coating effects and can cause long term groundwater contamination | A/E | Hazardous materials which are stored externally are stored in drums & IBCs within locked bunded bulk stores. Maintenance oils and production chemicals are stored in small capacity containers (<100 litres) internally on hardstanding. Therefore, failure of containment will lead to minor spill and minimal potential to enter drains. Spill kits on site Routine inspections of storage areas and hardstand will form part of the EMS | 3 | 2 | 6 |
| Raw Material use All potentially hazardous raw materials are listed on EMS schedule EMS 06-003 Chemical IBCs and drums | Manual handling spill. | Surface water course Risk of impact at Wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Risk of impact at surface water drain adjacent to N. Acids and oils are toxic to aquatic environment. | N/A/E | Provision of spill kits on site. Production chemicals, fuels and maintenance oils are only handled on hardstand areas and internally. Staff trained in handling of materials and spill kit use. | 4 | 2 | 8 |

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| | | Fuels are classed as toxic to aquatic organisms due to coating effects | | | | | |
| | | Groundwater - Leaks or spills of materials to ground and groundwater. Acids and oils are toxic to aquatic environment. Fuels are classed as toxic to aquatic organisms due to coating effects and can cause long term groundwater contamination | N/A/E | Hardstand inspection will form part of EMS Spill kits on site Staff trained in handling of materials and spill kit use. | 3 | 2 | 6 |
| RM, production, and waste All potentially hazardous raw materials and wastes are listed on EMS schedules EMS 06-004 | Vandalism leading to damage of site infrastructure, e.g., bulk stores. | Escaped/leaking materials could impact on surface water course &/or groundwater Surface water drains, effluent drains – Risk of impact at Wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Risk of impact at surface water drain adjacent to N. Groundwater Leaks or spills of materials to ground and groundwater | A/E | Secure site, locked yard gates. 24 hours security and CCTV. Storage areas provided with secondary containment on hardstand areas. Storage areas locked. Staff trained in handling of materials and spill kits. Building secure | 2 | 4 | 8 |
| Production processes | Production breakdowns leading to wastage. | Waste generation Excessive wastage, leading to unnecessary environmental impact | A/E | Production equipment maintained as part of planned preventative maintenance programmes and under contracts where appropriate. | 4 | 2 | 8 |
| | Poorly maintained process equipment including extraction fans, refrigeration equipment, pumps, leading to excessive noise emissions | Noise - Humans. Potential for noise to cause impact and nuisance on neighbours (irritation/disturbance/impact on sleep / lower standard of living) | N/A/E | Process equipment is maintained by site engineers and/or contractors to ensure minimal noise potential from moving and vibrating parts. All process operations undertaken internally. Routine inspections will assist in early identification of problems | 3 | 2 | 6 |

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|---|--|--|-------|---|---|---|----------|
| Product Testing | | Noise - Humans. Potential for noise to cause impact and nuisance on neighbours (irritation/disturbance/impact on sleep / lower standard of living) | N | Noise mitigated by acoustic fencing. No impact to sensitive residential receptors as shown in Noise Assessment ITM-EP001-016 | | | |
| Effluent Drains | Failure of drainage systems leading to trade effluent entering ground water. | Ground Water Leaks to ground and ground water, causing ground contamination. | A/E | Segregated surface and effluent drainage systems Short drainage runs reduces risks No surface water drain entry points located in processing areas (all discharge to effluent system) Drains form part of infrastructure monitoring programme. Housekeeping measures to ensure site kept clean and tidy, minimising chance of entry into drains. Hazardous materials stored in bunded facilities, or internally. | 2 | 4 | 8 |
| Waste storage and transfer <ul style="list-style-type: none"> • Wood Waste • Metals • General waste • Card/paper • Laboratory Effluent • Waste oils • Aerosols <p>Wastes are listed on EMS schedule EMS 06-004.</p> | Open skips/bins could lead to litter being produced | Amenity (litter/vermin) Waste vessel could lead to litter generation | N/A/E | General waste skips are lidded/covered. Dedicated waste storage areas. Housekeeping inspections. Litter picking where necessary Site fences will prevent significant off site spread of litter. | 4 | 2 | 8 |
| | Dust releases from dusty waste | Fugitive Air Releases - Humans | N/A/E | Designated storage area for waste. Majority of materials not of a friable nature Housekeeping inspections. | 1 | 2 | 2 |
| | Spillage or leak from waste vessels or during handling/transfer of wastes. | Surface water drains, effluent drains – Risk of impact at Wastewater treatment works and breach of consent if spills/leaks of materials enter surface gullies on site. Risk of impact at surface water drain adjacent to N. Groundwater - Leaks or spills of materials to ground and groundwater. | A/E | Liquid wastes which are stored externally are stored in drums/IBCs within bunded bulk stores. Spill kits on site and staff trained in their use Routine inspections of storage areas will form part of the EMS. | 3 | 2 | 6 |

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Environmental Permit Application

Reference Number: EPR/HP3640QD/A001 & EPR/AP3225SE/P001



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|------------------------------------|--|--|-------|--|---|---|----------|
| | | Waste oils are classed as toxic to aquatic organisms due to coating effects | | | | | |
| Refrigeration Systems | Noise from the refrigeration units. Poorly maintained fans, pumps, compressors. | Noise - Humans. Potential for noise to cause impact and nuisance on neighbours (irritation/disturbance/impact on sleep / lower standard of living) | A/E | Refrigeration equipment maintained as part of planned preventative maintenance programme by site engineers and under service contract to ensure minimal noise potential from moving and vibrating parts. | 2 | 4 | 8 |
| | Leak from the refrigeration systems resulting in escaped gases into atmosphere. | Fugitive Releases to Air Gaseous Refrigerants used on site with global warming potential | A/E | Refrigeration systems maintained as part of planned preventative maintenance programme by site engineers and under service contract. | 1 | 4 | 4 |
| Boilers/generator/hot water | Pumps, fans, extraction vents/stacks - Poor maintenance could lead to noise emissions. | Noise - Humans. Potential for noise to cause impact and nuisance on neighbours (irritation/disturbance/impact on sleep / lower standard of living) | N/A/E | Equipment subject to maintenance as required Equipment located and utilised internally | 1 | 4 | 4 |