

# Permitting decisions

## Bespoke permit

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We have decided to grant the permit for **Johnson Matthey Fuel Cells Ltd** operated by **Johnson Matthey Fuel Cells Limited**.

The permit number is **EPR/MP3532JR**.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

### Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account.

This decision document provides a record of the decision making process. It:

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#).

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

### Key issues of the decision

This application is to allow Johnson Matthey Fuel Cells Ltd (JM) to manufacture metal oxides from metal chloride raw materials. Their production may ultimately increase to over 100 kg per year and hence require an installation permit under Schedule 1 of the Environmental Permitting Regulations, section 4.2 Part A(1)(a)(v).

The Directly Associated Activities are:

- Energy generation from two gas fired boilers with less than 1MW aggregated thermal capacity;
- Air abatement via a alkaline scrubber;
- Storage and handling of the waste generated on site.

The Johnson Matthey site is located in a mainly commercial and retail area, approximately 4 miles to the south west of Swindon town centre.

The nearest sensitive receptors are 800m away in the form of residential areas. There are no habitat receptors within the relevant screening distances.

### Point source emissions

The site has one point source emission to air. Emissions will be via a dedicated scrubber flue, with the outlet situated above the immediate roofline. The scrubber is used to remove the chlorine and hydrogen chloride resulted in the calcination process of metal oxides.

The Operator has submitted an H1 Assessment. Short term impacts are likely to be of greatest significance, due to the intermittent nature of the production process (no more than 90 times per year). The emission rates developed for the assessment unabated maximum hourly concentrations of 56 mg/m<sup>3</sup> chlorine and 116 mg/m<sup>3</sup> hydrogen chloride, which is assumed to be 100% values for both species. We are satisfied that this is the worst case scenario.

The long term contribution for both considered species is below 1 µg/m<sup>3</sup> (0.141 for chlorine and 0.292 for hydrogen chloride). The short term process contribution for chlorine is 37.2 µg/m<sup>3</sup> which represents 12.9% of the BAT associated emission levels and 77 µg/m<sup>3</sup>, representing 10.3% of BAT AELs.

Number	Substance	Long Term			Short Term		
		EAL µg/m <sup>3</sup>	PC µg/m <sup>3</sup>	* Modelled PC µg/m <sup>3</sup>	EAL µg/m <sup>3</sup>	PC µg/m <sup>3</sup>	* Modelled PC µg/m <sup>3</sup>
1	Chlorine		0.141		290	37.2	
2	Hydrogen chloride		0.292		750	77.0	

Number	Substance	Long Term EAL µg/m <sup>3</sup>	Short Term EAL µg/m <sup>3</sup>	Long Term			Short Term		
				PC µg/m <sup>3</sup>	% PC of EAL	> 1% of EAL?	PC µg/m <sup>3</sup>	% PC of EAL	> 10% of EAL?
1	Chlorine	-	290	0.141	-		37.2	12.9	Yes
2	Hydrogen chloride	-	750	0.292	-		77.0	10.3	Yes

Assuming a highly conservative background concentration of 1 µg/m<sup>3</sup> for both pollutants, the short-term Predicted Environmental Concentrations are both below 20% of the air quality criterion and screen out as having not significant impacts. Therefore no detailed dispersion modelling of emissions to air is required

Number	Substance	Air Bkgnd Conc. µg/m <sup>3</sup>	PC µg/m <sup>3</sup>	Long Term			Short Term			
				% PC of headroom (EAL - Bkgnd)	PEC mg/m <sup>3</sup>	% PEC of EAL	% PEC of EAL >=70?	PC µg/m <sup>3</sup>	% PC of headroom (EAL - Bkgnd)	% PC of headroom >=20?
1	Chlorine	e.g. 12	0.141	-	0	-		37.2	12.9	No
2	Hydrogen chloride	1	0.292	-	0	-		77.0	10.3	No

There are no other point source emissions to media.

### Fugitive emissions

There are no direct or indirect emissions of liquids to groundwater from the installation.

There are no emissions to watercourse or foul sewer arising from the installation.

Interceptors are in place within the JM yard, collecting storm water and surface runoff from all external yard areas. These are emptied quarterly. Other liquid wastes from the wider installation are collected in indoor sumps before being transferred to appropriately bunded IBCs within the JM yard area awaiting weekly collection. All liquid wastes are tankered offsite for treatment by specialist waste contractor Augean.

Spent liquor and other process waste liquids are tankered off site by specialist waste hauler Augean for disposal every two months.

## **Waste**

PGM (platinum group metals) contaminated waste generated across the whole JM site is collected by waste contractor "Brinks" and transported to the Johnson Matthey low-grade recovery facility at Brimsdown every two months, to reclaim any entrained precious metals.

Liquid wastes, including liquids from the wash down of parts. This waste, which amounts to approximately 1,000 litres per annum, is collected weekly by specialist waste hauler Augean

There are no routine fugitive emissions to sewer, surface water or groundwater. There are no emission pathways from the site, all surface water runoff drains into the interceptor located within the JM yard area. As a consequence, failure of any storage containers and their secondary containment would end up in the interceptor.

The site holds the Certification to Environmental Management System ISO 14001 and Quality Management System ISO 9001.

## **Site condition report**

The applicant has carried out intrusive sampling in January 2001. The site has been developed into the current configuration from brownfield. The site condition report provided shows:

- The site is underlain by the lowermost part of the Kimmeridge clay formation, or upper Jurassic age,
- Corallian Group rocks (sands, clays and limestones) occur beneath the Kimmeridge Clay cover of the site,
- One of the samples contained elevated concentrations of arsenic, which exceeded the lower ICRCCL - Guidance on the assessment and redevelopment of contaminated land - threshold trigger value for domestic gardens and allotments,
- Three of the samples contained elevated levels of Boron, which exceeded the lower ICRCCL threshold trigger value for domestic gardens and allotments,
- Two of the samples had elevated levels of salinity, which exceeded the maximum level recommended for general landscaping purposes,
- Elevated levels of sulphate were detected in two of the samples and Toluene extractable material (TEM) was detected in one of the samples.

The study concluded that due to the salinity found in soil samples, spoil material is not suitable for use as a topsoil to sustain plants.

The site covers a total area of 28,273 m<sup>2</sup>. Currently only 13,060 m<sup>2</sup> (46%) of the total site area is developed, with the remaining area comprising undeveloped brownfield land. The building floor is concrete, there are no direct routes to surface water or sewer. Liquid reagents are stored in appropriate bunded storages and the container bunds are specified to hold in excess of 110% of the storage volume. Should the containment and recovery be unsuccessful the spillage would eventually make its way to the site interceptor which would then be emptied and taken offsite.

Besides this Part A activity under the current installation permit, the site operates a Part B coating activity regulated by the local authority, and the manufacture of phosphoric acid battery components – no permit required (mixing and blending of chemicals and application to cell membrane to form anode and cathode components- no chemical reactions take place in this process).

We are satisfied that the site condition report is fit for purpose, the baseline data still represents an accurate picture of site condition, and if spillages have occurred since the site was developed, these have been contained.

Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	<p>A claim for commercial or industrial confidentiality has not been made.</p> <p>The decision was taken in accordance with our guidance on confidentiality.</p>
Identifying confidential information	<p>We have not identified information provided as part of the application that we consider to be confidential.</p> <p>The decision was taken in accordance with our guidance on confidentiality.</p>
<b>Consultation</b>	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> <li>- Local Authority Environmental Protection Department</li> <li>- Health and Safety Executive</li> <li>- Public Health England</li> <li>- Director of Public Health</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>Operator</b>	
Control of the facility	<p>We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.</p>
<b>The facility</b>	
The regulated facility	<p>We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation'.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p>
<b>The site</b>	
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.</p> <p>The Operator carries other operations on site, including a Part B permit, this being the reason for the fragmentation of the installation boundary. The site plan has been confirmed as being accurate by the Environment Officer.</p>
Site condition report	<p>The Operator has provided a description of the condition of the site, which we</p>

Aspect considered	Decision
	consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.
Biodiversity, heritage, landscape and nature conservation	The application is not within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.
<b>Environmental risk assessment</b>	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p>
<b>Operating techniques</b>	
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
Operating techniques for emissions that screen out as insignificant	<p>Emissions of chlorine and hydrogen chloride have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p>
<b>Permit conditions</b>	
Emission limits	<p>ELVs based on How to comply with your environmental permit, Additional guidance for: The Inorganic Chemicals Sector (EPR 4.03) have been set for the following substances:</p> <ul style="list-style-type: none"> <li>- Chlorine</li> <li>- Hydrogen chloride</li> </ul>
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.</p> <p>These monitoring requirements have been imposed in order to comply with our Environmental Guidance.</p> <p>We made these decisions in accordance with <i>How to comply with your Environmental Permit, Additional guidance for: The Inorganic Chemicals Sector (EPR 4.03)</i> and <i>Technical Guidance Note M2 - Monitoring of stack emissions to air</i>.</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.</p>

Aspect considered	Decision
Reporting	<p>We have specified reporting in the permit.</p> <p>We made these decisions in accordance with our <i>How to comply with your Environmental Permit, Additional guidance for: The Inorganic Chemicals Sector (EPR 4.03)</i></p>
<b>Operator competence</b>	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.</p>
Relevant convictions	<p>The Case Management System has been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.</p>
<b>Growth Duty</b>	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p> <p>We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

# Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, and the way in which we have considered these in the determination process.

## Responses from organisations listed in the consultation section

<b>Response received from</b>
Public Health England, 15 June 2018
<b>Brief summary of issues raised</b>
No issues raised.
<b>Summary of actions taken or show how this has been covered</b>
No further action needed.

<b>Response received from</b>
Wiltshire Council, 11 June 2018
<b>Brief summary of issues raised</b>
Recommends that in case of any potential for loss of amenity due to noise an acoustic assessment in accordance with BS4142:2014 should be conducted, and report and mitigation applied where identified.
<b>Summary of actions taken or show how this has been covered</b>
We have considered the potential for noise from the site's activities and considered that no additional conditions are necessary at this time.