

Natural Resources Wales Permitting Decisions

**FMC Agro Limited
(Pentre Agrochemicals Site)**

Decision Document

Application for a Normal Variation

The application number is: PAN-026339

The permit variation number is: EPR/FP3031CW/V005

The operator is: FMC Agro Limited

The Installation is located at: Pentre Agrochemicals Site, Rectors Lane, Pentre, Deeside, Flintshire CH5 2DH

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

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

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1. Executive summary

1.1. Application summary

The operator has applied to vary their permit to make the following changes on site:

- Replace the existing double skinned plastic storage tank used for storage of nitric acid with a bespoke stainless steel tank. The volume of both existing and new storage tanks is 26m³
- Construct a CIRIA C736 compliant concrete secondary containment bund for the proposed storage tank
- Instal a new water scrubber abatement system
- Relocate the water scrubber vent emission point at A006 5-10m from it's current location

The maximum capacity for the installation is confirmed to remain at 18,000 tonnes per year and the current permitted operational and production hours at the Installation will not change.

1.2 Our decision

We are have decided to issue the variation for Pentre Agrochemicals Site operated by FMC Agro Limited.

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.

2. Receipt of the application

The application was received on 10/07/2024 as a minor technical variation and was deemed a normal variation during the duly making process. In order for us to be able to consider the application duly made, we needed more information. We requested the following:

- The correct charging tool
- OPRA Spreadsheet
- Drainage Plan

A letter requesting this information was sent to the operator on 20/08/2025. Upon receipt of this information, on 01/09/2025, we were able to consider the application duly made. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

3. Confidential information

The operator made no claim for commercial confidentiality, and we have not received information in relation to the application that appears to be confidential in relation to any party.

4. Legislation

The variation will be issued, under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that the decision on this application is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales and applying the principles of SMNR. In particular, NRW

acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in issuing the variation a high level of protection will be delivered for the environment and human health through the operation of the Installation in accordance with the permit conditions.

As the EPR regulator for Part A1 installations in Wales, NRW are required to determine any duly made Part A1 permit applications. This means that we must decide either to grant, or to refuse the variation based upon an objective assessment of the proposals against the detailed legal requirements of EPR. Our public participation statement¹ gives more information on what can, and cannot, be taken into account when making our permitting decision.

The application, and this decision document, only considers the permitting of the facility under EPR as described throughout the document. We only assess the installation and its impacts and cannot take into consideration indirect impacts which are not as a direct result of activity within the installation boundary.

Any proposed development and wider associated activities will be required to be compliant with all relevant and applicable law, for example, environmental law, health and safety law, planning law. This other legislation acts largely independently of EPR (although they may be inter-related). Such other matters are beyond both the scope of this document, and of our regulatory remit and expertise and are not relevant to our EPR permitting decision. Ensuring compliance with all other regulation and obtaining any required consents (such as planning permission) is the responsibility of those undertaking the development and is regulated by the relevant appropriate authority for each.

5. Consultation

No consultation has been carried out on this application as it is an application for a normal variation not subject to consultation requirements. This decision was made in

¹ [Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations](#)

accordance the Environment Permitting Regulations (EPR), our statutory Public Participation Statement² and our Regulatory Guidance.

6. The Installation

6.1. The permitted activities

The regulated facility is currently an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations:

- Section 4.2 A(1)(a)(iv) – producing inorganic chemicals such as – salts (for example ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate).

An installation may also comprise “directly associated activities”, which at this Installation includes:

- Surface water disposal

Together, these listed and directly associated activities comprise the Installation.

6.2. Changes to the installation

The operator is proposing to replace an existing nitric acid storage tank with a new bunded stainless steel tank of the same volume and replace and reposition an existing water scrubber unit with a new water scrubber unit. This scrubber unit is for the abatement of potential nitric acid fume within air displaced from the storage tank and nitrogen dioxide extracted from the Mixer 3 plant, and it's associated air emission point is A006. This emission point will be relocated 5-10m away from the current position. The new equipment will be located on the hardstanding area, adjacent to the roofed building along its northern edge and a purpose built bund will also be constructed for secondary containment of the new nitric acid tank. See section 8.3 below for more information on containment provisions.

² [Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations](#)

7. Operation of the installation

7.1. Operator competence

The operator is the sole operator of the Installation. We are satisfied that the operator is the person who will have control over the operation of the Installation after the variation is issued; and that they will be able to operate the Installation so as to comply with the conditions included in the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator³.

Relevant Convictions

The operator has declared they have no relevant convictions. NRW's COLINS Database has been checked to confirm there are no relevant convictions. No relevant convictions were found.

Financial Provision

The operator has declared they have no current or past bankruptcy or insolvency proceeding against them. There is no known reason to consider that the operator will not be financially able to comply with the permit. The decision was taken in accordance with RGN 5 on Operator Competence.

7.2. Environmental Management System

The operator has stated in the application that they will implement an Environmental Management System (EMS) that will meet the requirements for an EMS in our “How to comply with your environmental permit” guidance⁴

The operator has confirmed that it has an Environmental Management System (EMS) which is certified to Green Dragon Level 4. The EMS has been certified since 2013 and is regularly audited by a suitably accredited third-party organisation, Groundworks Wales. The operator has confirmed that the EMS includes the policies, management principles, organisational structure, responsibilities, standards/procedures, process controls and resources required to manage environmental protection across all aspects of the business and that it has been reviewed by NRW. The operator has

³ [RGN 1 Understanding the meaning of 'operator' \(naturalresources.wales\)](#)

⁴ [Natural Resources Wales / Guidance to help you comply with your environmental permit](#)

submitted a summary of the EMS with their application. We have reviewed the application and are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

Accident management

The operator has confirmed that it recognises the importance of the prevention of accidents that may have environmental consequences and that it is crucial to limit those consequences should an incident occur and that the existing Accident Management Plan (AMP) will be updated and maintained at the site to ensure the site's staff are fully prepared for such incidents. The AMP will continue to be reviewed every three years as a minimum, and after any reportable incident on site. The document will be continually improved in these reviews to include best practice and minimise the risk of accidents occurring. We have requested by way of an Improvement Condition that the Accident Management Plan is to be updated and submitted to NRW for approval – see Section 11.2 and Annex 1 below.

In order to ensure that the management system proposed by the operator sufficiently manages the residual risk of accidents, permit condition 1.1.1a requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents.

7.3. Operating techniques

Installation activities and assessment of Best Available Techniques

The operator has described the proposed equipment and operating techniques and compared these against the relevant guidance notes / Best Available Techniques conclusions (BATc) which for an installation of this type is.

- How to Comply with your Environmental Permit, V8 October 2014;
- How to Comply with your environmental permit. Additional guidance for the inorganic chemicals sector (EPR 4.03), March 2009;
- Reference Document on Best Available Techniques for the Production of Speciality Inorganic Chemicals (August 2007);

- Best Available Techniques (BAT) Reference Document for Common Waste Gas Management and Treatment Systems in the Chemical Sector (January 2022).

The Operator has confirmed it will comply with the appropriate Technical Guidance Notes and Best Available Techniques conclusions (BATc) which for this installation is The Common Waste Gas Management and Treatment Systems in the Chemical Sector December 2022. We have reviewed the techniques proposed and consider them in line with them to represent BAT at this installation / meet the requirements outlined in the TGN.

We have specified that the operator must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques (Table S1.2) table in the permit and will include the following reports:

- Operating Techniques
- CIRIA Risk Assessment
- Non Technical Summary

We have also specified the operating techniques should include the updated Accident Management Plan, Site Maintenance Plan and Safety Instrumented System (SIS) required by Improvement Condition 6, 7 and 8 respectively.

8. The site

8.1. Site Plan

The operator has provided an updated plan which we consider is satisfactory, showing the extent of the site of the facility and its emission points. The updated plan will be included in the permit and the operator will be required to carry on the permitted activities within the site boundary.

8.2. Site Condition Report

The proposal does not include the addition of any land and so a Site Condition Report was not required to support this application.

8.3. Site protection: potentially polluting substances and prevention measures

The operator has proposed the following:

- Replace the existing double skinned plastic storage tank used for storage of nitric acid with a bespoke stainless steel tank. The volume of the new storage tank remains unchanged at 26m³.
- Construction of a dedicated bund located on a sealed concrete hardstanding.

A risk to the environment associated with this proposal is in the event of a catastrophic failure of the primary containment of the tank.

Secondary containment is separate to the primary containment and its purpose is to contain the contents of the primary containment in the event of an escape of the contained liquid. Tertiary containment minimises the consequences of a failure in the primary and secondary containment systems by providing an additional barrier in the event of an escape of the contained liquid.

As part of the variation application, the operator has submitted a CIRIA 736 Risk Assessment for the nitric acid storage and transfer facilities to confirm that appropriate secondary containment measures will be in place. We consider this risk assessment to be satisfactory.

The storage tank is a new build, constructed of stainless steel which has undergone suitable design and factory acceptance testing to ensure it is fit for purpose and the operator has confirmed that any defect in the structure of the tank leading to loss of containment is considered to be an extremely remote possibility. The operator has confirmed that a Safety Instrumented System (SIS) will be installed to ensure the safe operation of the nitric acid storage tank when filling from a road tanker and when

discharging to the production mixing vessel. We have included an Improvement Condition for the installation of this safety system - see Section 11.2 and Annex 1 for more details.

Secondary containment of the tank is provided by a dedicated bund located on sealed concrete hardstanding which has been constructed from reinforced concrete to EN1992-3:2006 standard. The operator states that the design and construction of the bund is in accordance with the CIRIA C736 Guidance 'Containment Systems for the Prevention of Pollution'. This dedicated bund will be at least 110% of the capacity of the tank, in accordance with the '110 percent rule' within the guidance document, which states: "where a single bulk liquid tank is bunded, the recommended minimum bund capacity is 110 per cent of the capacity of the tank"

The proposed tank Volume is 26m³ and the gross bund volume is 41.7m³. Therefore, the capacity of the bund providing secondary containment is sufficient.

The operator has confirmed that the hardstanding area acts as tertiary containment and is a kerbed concrete apron with water drainage features. Flooring consists of a ground bearing concrete slab, which provides the tertiary containment for any liquid spills internal to the buildings or externally on the yard. The floor is laid to falls and is installed with drains to direct liquids into a water collection sump. This is a holding area for rainwater or potentially if there is a spill.

In order to ensure that the facility remains in a condition that allows on-going compliance with the CIRIA C736 Guidance, we have set an Improvement Condition for the inspection and maintenance of the yard and new tank, and also for a compliant containment inspection regime - see Section 11.2 and Annex 1 for more details.

The operator has a duty to ensure that soil and groundwater are protected in order to meet the requirements of Articles 14 (1)(b), 14(1)(e) and 16(2) of the IED.

Based upon the information in the application we are satisfied appropriate measures will be in place to protect the site and its surroundings from polluting substances.

9. Environmental Risk Assessment

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, water, sewer and discharges to ground or groundwater, global warming potential and generation of waste. All these factors have been considered during our determination and the relevant risks from this proposal are discussed in this and other sections of this document.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of emissions from the Installation on human health and the environment and what measures we are requiring ensuring a high level of protection.

In line with our guidance, the operator has provided an environmental risk assessment with the application which identifies and the sources of key risks from the variation, possible pathways and receptors. This risk assessment and further assessments provided by the operator and/or completed by NRW will be discussed in further detail below.

9.1. Assessment of impact on air quality

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the stack and its impact on local air quality.

The operator has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon human health in line with relevant guidance⁵. These assessments predict the potential effects on local air quality from the Installation's stack emission.

The air impact assessments, and the dispersion modelling has been based on the Installation operating continuously at the relevant long-term or short-term emission limit values, i.e., the maximum permitted emission rate.

⁵[Air emissions risk assessment for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit)

Dispersion modelling has been carried out for Nitric acid vapor (HNO_3); and oxides of nitrogen (NO_x)

The operator has calculated process contributions (PC) and predicted environmental concentrations (PEC) at locations within the immediate vicinity and all identified sensitive receptor locations. The modelling results for each pollutant will be discussed separately below.

Emissions of NO_2 was assessed against a long-term critical level of $40\mu\text{g}/\text{m}^3$ (annual) and short term critical level of $200\mu\text{g}/\text{m}^3$ (hourly). At all sensitive receptor locations modelled the air quality assessment level is not exceeded at any of the receptor locations. Therefore the long-term and short term impacts from NO_2 can be considered as not significant.

Emissions of HNO_3 was assessed against a long-term critical level of $52\mu\text{g}/\text{m}^3$ (annual) and short term critical level of $1000\mu\text{g}/\text{m}^3$ (hourly). At sensitive receptor locations the maximum predicted long-term PC was $>1\%$ and the long-term PEC was $<70\%$ of the long-term critical level. Therefore, in accordance with the GOV.UK Guidance⁵ the long-term impacts from HNO_3 can be considered as insignificant. At sensitive receptor locations the maximum predicted short-term PC was $<10\%$ of the short-term critical level. Therefore the short-term impacts from HNO_3 can be considered insignificant.

Emission limits, Monitoring Provisions and Reporting

No changes have been made to the emission limits, monitoring provisions or reporting requirements for oxides of nitrogen and Nitric Acid Vapour in Schedule 3 of the permit.

9.2 Assessment of impact to surface and ground water

The operator has confirmed that the only new potential waste stream introduced as a result of the proposed changes on site, is contaminated water pumped from the proposed containment bund. The bund will have a level switch fitted in the sump which will alarm when a predetermined level is reached. Site personnel will check the pH of the water and depending upon the results manually pump the sump out to either surface water discharge point S001 if the pH is neutral or if the pH is acidic to an IBC

for off-site disposal. We agree with this proposal. Monitoring and reporting provisions will not be added to Schedule 3 of the permit for water collected in the bund.

9.3. Fugitive emissions

The operator has stated that the risks of pollution from fugitive emissions as a result of the proposed changes are unlikely and that measures will be in place to minimise the risk of fugitive emissions.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

Permit condition 3.2.1 requires that emissions of substances not controlled by emission limits (i.e., fugitive emissions) shall not cause pollution. Condition 3.2.2 requires that a management plan shall be developed if pollution is subsequently identified.

9.4. Assessment of odour impact

The operator has confirmed that the risks of pollution from odour emissions as a result of the proposed changes are unlikely and that measure will be in place to minimise the risk of odour emissions. Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise the effects of odour.

Condition 3.3.1 in the permit will also require that emissions from the activities are free from odour at levels likely to cause pollution outside the site. We are satisfied that this will be sufficiently protective in conjunction with the measures described by the operator for minimising odour at the installation.

9.5. Noise and vibration assessment

The operator has confirmed that the risks of pollution from noise emissions as a result of the proposed changes are unlikely and that measures will be in place to minimise the risk of noise emissions. Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from noise emissions.

We are satisfied that vibration is unlikely to be an issue at the installation. The nature of the activity means that there are no significant sources of vibration on site.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where not practicable to minimise the effects of noise and vibration.

Conditions 3.4.1 of the permit requires noise from the activities to be below that which could cause pollution outside the site. We are satisfied that this will be sufficiently protective in conjunction with the measures described by the operator for minimising noise at the installation.

10. Impact on National Site Network Sites, SSSIs and non-statutory sites

The operator has used the relevant screening distance criteria to identify relevant protected conservation sites which could be at risk from the proposal. The operator has made reference to the EA's AERA Guidance which states that the following ecological sites need to be considered:

SPAs, SACs and Ramsar Sites (protected wetlands) within 10km of the Site; and SSSIs and local nature sites within 2km of the Site. We are in agreement with the screening distances used.

National Site Network sites, Sites of Special Scientific Interest (SSSI) and non-statutory conservation sites will be discussed separately below.

10.1. The National Site Network

The following National Site Network sites are located within 10km of the installation:

- Deeside and Buckley Newt sites SAC
- Dee Estuary / Aber Dyfrdwy (Wales) SAC
- Dee Estuary / Aber Dyfrdwy (England) SAC
- River Dee and Bala Lake (England) SAC
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales) SAC
- The Dee Estuary (England) SPA
- The Dee Estuary (Wales) SPA

A Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway to any of the National Site Network sites identified by virtue of the scale or location or nature of the project. The only change is the existing nitric acid tank and water scrubber are being upgraded. In addition the new tank will be positioned in a purpose built bund, which is a betterment. There are no new point source emissions to air or water. The proposal will not result in any changes to emissions to surface water or increase emissions to air over the site's existing operations. As such there was no additional impact pathway as a result of the proposed changes over the site's existing operations.

10.2. Sites of Special Scientific Interest (SSSI)

The following SSSIs are located within 2 km of the installation:

- Afon Dyfrdwy (River Dee) SSSI

As described in Section 10.1 above, based upon the information in the application we are satisfied that there will be no adverse impact to the sites of special scientific interest identified.

10.3. Non-statutory conservation sites

The following relevant non-statutory sites are located within 2 km of the installation:

- Ancient woodland site (37657)
- Ancient woodland site (37658)

As described in Section 10.1 above, based upon the information in the application we are satisfied that there will be no adverse impact to the non-statutory conservation sites identified.

11. The Permit Conditions

11.1. Incorporating the variation

We have specified that the operator must operate the permit in accordance with descriptions in the application.

These descriptions have been specified in the Operating Techniques table in the permit.

11.2. Improvement conditions

Based on the information on the application, we consider that we need to impose improvement conditions. Details of the improvement conditions used can be found at Annex 1

12. OPRA

The OPRA score has been changed to 111. This is because the current score of 91 has been calculated with a 'zero' for sensitivity of receiving waters, i.e. there is no value added. The operator has updated this to reflect the fact that surface water discharged from the site ultimately enters the River Dee estuary, hence giving a value of 3. This changes the Total from 12 to 15 and moves from Band C to D.

This will form the basis for ongoing subsistence fee's.

ANNEX 1: Improvement Conditions

The following table for the improvement conditions has been included in the permit and the decision for their inclusion discussed in the body of the text of this document:

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC6	The operator shall update its accident management plan to incorporate all the activities covered by this permit. The operator shall submit the accident management plan to Natural Resources Wales for approval by the date specified.	Within 6 months of the issue of Variation V005 or otherwise agreed in writing with NRW
IC7	The operator shall implement an inspection and maintenance regime for the yard and storage tank.	Within 6 months of the issue of Variation V005 or otherwise agreed in writing with NRW

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC8	The operator shall install a Safety Instrumented System (SIS) to ensure the safe operation of the nitric acid storage tank when filling from a road tanker and when discharging to the production mixing vessel.	Within 6 months of the issue of Variation V005 or otherwise agreed in writing with NRW