APPLICATION FOR ENVIRONMENTAL PERMIT UNDER THE ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016 (AS AMENDED)

NON-TECHNICAL SUMMARY

MICROPHARM LIMITED, CNWCAU, CILGERRAN, SA43 2SN

ECL Ref: ECL.066.01.01/NTS
Version: Issue 1
January 2020

TABLE OF CONTENTS

ACRONYMS / TERMS USED IN THIS REPORT

ASCR	Application Site Condition Report
BAT	Best Available Techniques
BREF	BAT Reference Documents
cGMP	Current Good Manufacturing Process
ECL	Environmental Compliance Limited
EMS	Environmental Management System
EP Regulations	Environmental Permitting (England and Wales) Regulations 2016 as amended
EP	Environmental Permit
ERA	Environmental Risk Assessment
H&SMS	Health and Safety Management System
HAZOP	Hazard and Operability Study
HVAC	Heating, Ventilation and Air Conditioning
MHRA	Medicine and Healthcare products Regulatory Agency
MicroPharm	MicroPharm Limited
MSDS	Material Safety Data Sheet
NGR	National Grid Reference
NRW	Natural Resources Wales
PCC	Pembrokeshire County Council
QRM	Quality Risk Management

1. INTRODUCTION

1.1. Environmental Compliance Limited ("ECL") have been appointed by MicroPharm Limited ("MicroPharm") to prepare an Environmental Permit ("EP") application to be submitted to Natural Resources Wales ("NRW").

1.2. MicroPharm specialise in the development of immunotherapeutic products to target acute toxic conditions. At MicroPharm's Newcastle Emlyn Site (EP Reference EPR/FP3437VK), the Company specialises in the manufacture of anti-venoms for the treatment of venomous snakebites, specifically the European common adder and the carpet viper in West Africa. In addition, MicroPharm offer a contract manufacturing service.

1.3. MicroPharm are proposing to undertake similar operations at the Cnwcau, Cilgerran Site, hereafter referred to as "the proposed Installation". The proposed Installation will manufacture treatments for envenomation caused by venomous snake and scorpion species found in Europe, North Africa and the Middle East.

1.4. The proposed Installation is located at Cnwcau, Cilgerran (SA43 2SN) and occupies an area of approximately 1.09Ha. The proposed Installation is centred on National Grid Reference ("NGR") 220249, 242714.

1.5. The Planning Application (Reference 18/0988/PA) for the proposed Installation was conditionally approved in February 2019 by Pembrokeshire County Council ("PCC"). The conditions of the Planning Permission include environmental controls of potential noise pollution.

1.6. A Pre-Application meeting was held at NRW's Llandarcy Office on Wednesday 8th May 2019 attended by MicroPharm, Environmental Compliance Limited and Guy Baskerville of NRW. He is MicroPharm's Newcastle Emlyn Site Inspector and it is also likely he will be appointed the NRW Site Inspector for the proposed Installation.

1.7. The purpose of the meeting was to discuss the Schedule 1 Activity within the Environmental Permitting (England and Wales) Regulations 2016 as amended ("EP Regulations") applicable to the proposed activities and to also confirm which NRW guidance and Best Available Techniques ("BAT") Reference Document ("BREF") should be considered in the application.

2. LISTED ACTIVITIES

2.1. The proposed Listed Activity to be undertaken at the proposed Installation is covered by the description in Section 4.5 A(1)(a) in Part 2 to Schedule 1 of the EP Regulations: *"Producing Pharmaceuticals".*

3. MANAGEMENT SYSTEM

3.1. MicroPharm will operate an Environmental Management System ("EMS") at the proposed Installation which will address environmental matters. This will be based on their current EMS at the Newcastle Emlyn Site but will be modified to cover any additional and/or site-specific risks related to the proposed Installation.

3.2. Due to the nature of the proposed activities and the strict regulations imposed, MicroPharm also have a comprehensive Quality Management System ("QMS) and Health and Safety Management System ("H&SMS") and therefore, relevant procedures forming part of the QMS and H&SMS will be incorporated and referenced throughout the EMS, where applicable.

4. OPERATING TECHNIQUES

4.1. The process involves eight functional phases which involves creation of the active compound from animal-derived material. :

4.2. A process flow diagram outlining a brief description of each individual phase of production is provided within the application documentation. Additionally the movement of product and people within the proposed Installation is also provided.

4.3. The proposed activities are based on an established process undertaken by a French company who currently manufacture human therapeutic products for injection. As part of the agreement to use this process at the proposed Installation, the well-defined design and engineering phases must be adhered to.

4.4. As previously discussed, MicroPharm operate a similar Installation, albeit on a smaller scale, at their site in Newcastle Emlyn (Permit Reference EPR/FP3437VK). Therefore, MicroPharm personnel are highly knowledgeable and experienced in this sector and manufacturing process. Due to the adoption of a well-established process, the technical expertise, the standard processing and laboratory equipment to be used, the scale and nature of the proposed activities and the strict regulations related to the manufacture of pharmaceuticals (see Section 4.3.2 and 4.3.3. below), the requirement to undertake a formal Hazard and Operability Study ("HAZOP") is not considered to be required.

4.5. MicroPharm will be inspected prior to commission by the UK Regulatory Body, Medicine and Healthcare products Regulatory Agency ("MHRA") to ensure compliance against current Good Manufacturing Practice ("cGMP") and all related regulations and directives.

4.6. In order to comply with the cGMP, MicroPharm has an extensive QMS which will be rolled out at the Installation. The QMS encompasses cGMP and Quality Risk Management ("QRM").

4.7. Due to the nature of the operations and the relatively simple separation and purification technologies being proposed, the level of process control required is considered low.

4.8. Some process stages, such as purification by chromatography will be automated using programmable chromatography systems. However, a MicroPharm Operator will be present to supervise all operations until the methods become established.

4.9. Items of equipment that are used for temperature-critical stages of the process will be temperature-controlled and critical stages will be monitored for key indicators to allow for prompt failure identification.

4.10. The manufacturing cleanrooms will be connected to a call-out system for the monitoring of room pressures. Temperature-controlled areas will be connected to a call-out system for monitoring temperature.

4.11. Additionally, large items of electrical equipment have emergency stop buttons to halt the process immediately in case of serious system failure.

5. EMISSIONS

5.1. There will be one emission point to air, designated as A1. A1 is a process related emission point which will only occur in an emergency situation. Nitrogen gas will be released in the unlikely event of a catastrophic failure of the vessel or fittings (e.g. valves, hoses etc.).

5.2. There will be no direct process-related point source emissions to surface water. Storm water run-off from the building and impermeable hardstanding areas, such as car parking areas, will pass directly through to the installation's surface water drainage system into emission points designated W1 and W2.

5.3. There will be direct process-related point source emissions to foul sewer, designated as S1, from the activities that will be undertaken at the proposed installation. The point source emissions to foul sewer will be authorised under a Trade Effluent Consent to be granted by Welsh Water.

5.4. The proposed processing activities will be undertaken within the main building and the entire site is covered by impermeable concrete hardstanding. Any potential spillages in the exterior areas of the Installation, associated with the unloading, storage and use of fuel oil will be contained in the purposefully designed and installed concrete bunded area. Other potentially polluting materials will be delivered and stored in the designated internal 'Stores Areas'.

5.5. Any accidental spillage will be dealt with in accordance with the installation's emergency spillage response procedure which will form an integral part of the installation's QMS and EMS.

6. GENERAL REQUIREMENTS

6.1. Noise Management

6.1.1. The Environmental Risk Assessment ("ERA") (Document Reference ECL.066.01.01/ERA), in conjunction with the Environmental Noise Assessment undertaken by the Industrial Noise and Vibration Centre Limited (Report No. 9197, November 2018) has demonstrated that the risk of noise nuisance is not considered to be significant. Therefore, a Noise Management Plan is not required as part of this EP application.

6.1.2. Nevertheless, routine noise checks at the Environmental Permit boundary will be undertaken by MicroPharm personnel (with the findings reported to management) and scheduled maintenance will be carried out on all equipment in accordance with manufacturer's specifications.

6.2. Emissions Management

6.2.1. The ERA (Document Reference ECL.066.01.01/ERA) has demonstrated that emissions of substances not controlled by emission limits (i.e. fugitive emissions) are not considered to be significant, consequently an Emissions Management Plan is not required as part of this EP application.

6.3. Odour Management

6.3.1. The process is not odorous in nature and therefore, an assessment of odour and the requirement for an odour management plan is not considered relevant.

6.4. Fire Management

6.4.1. Fire risk is an important consideration for the proposed Installation due to the storage of the various production chemicals, as well as the central heating oil. Therefore, detailed fire management strategies are described within the ERA and will be incorporated into the EMS and H&SMS.

7. RAW MATERIALS

7.1. Raw materials will be stored internally on impermeable concrete hardstanding within the main building in dedicated, access controlled stores areas until they are transferred to operational areas for use.

7.2. A designated area within the main building, known as the 'Core Area' will serve as a holding area for tanks of solutions buffers prior to use. Materials will be stored either at room temperature (15°C to 25°C) or refrigerated (2°C to 8°C).

7.3. Additionally, a 'Tank Storage Area' will be used as a holding area for in and out transfer of full and empty tanks through a dedicated hatch.

7.4. A full list of raw materials to be used in the manufacturing process is provided in the application documentation together with their associated Material Safety Data Sheet ("MSDS"), where available.

8. RESOURCE EFFICIENCY AND CLIMATE CHANGE

8.1. Energy Efficiency Measures and Energy Consumption

8.1.1. General energy efficiency measures will be employed at the Installation. These will include ensuring lighting and equipment not in use is turned off. This is also applicable to the central heating system, which is only operational during working hours.

8.1.2. In addition, a Conservation of Fuel and Power Assessment has been undertaken by Helyg Energy Services in February 2019 with the findings demonstrating compliance with the Building Fabric Reference method, as detailed in Section 6 of the Approved Document L2B (2014, Wales). A copy of the Conservation of Fuel and Power Assessment is provided in Appendix 6 of ECL.066.01.01/EPTR which is to be contained as part of this application submission.

8.1.3. A new transformer will have the capability to supply a maximum of 400kVA. However, at present, the Installation will be limited to a supply of 270kVA. Full utilisation of this power is on a worst case scenario basis of all equipment running simultaneously, plus an overage.

8.1.4. A Heating, Ventilation and Air Conditioning ("HVAC") system has been installed to provide temperature-controlled, filtered clean air for the manufacturing cleanrooms; this is a mandatory requirement of cGMP. Estimated HVAC electricity consumption is 100kWh/day.

8.1.5. Additionally, air-conditioning units have been installed in areas where temperature-control is required, e.g. laboratories and storage areas. Currently, there is no electricity consumption data for these units because not all of the units have been installed.

8.1.6. The energy consumption at MicroPharm's Low Impact Installation at Newcastle Emlyn is approximately 360kWh/day. The proposed Installation is a larger purpose built modern plant which has been designed to be more energy efficient. Once the Installation is

operational, energy consumption will be monitored using energy meter readings and MicroPharm will provide NRW with actual energy consumption data as part of the Annual Returns.

8.2. Waste Minimisation

8.2.1. Estimates of waste generated by the proposed Installation have been calculated based on the Newcastle Emlyn permitted site. The total estimated quantity of hazardous waste produced annually is expected to be approximately 16,000kg whilst the non-hazardous is expected to be approximately 34,000kg, therefore, in total the Installation will produce approximately 50,000kg of waste per annum.

9. APPLICATION SITE CONDITION REPORT

9.1. An Application Site Condition Report ("ASCR") (ECL.066.01.01/ASCR) has been prepared and shall be submitted as part of the EP application.

9.2. The aim of the ASCR is to describe the condition of the land at the site and, in particular, to identify any substance in, on, or under the land that may present a pollution risk.

9.3. The ASCR, therefore, sets out the initial (i.e. current) condition of the site and takes into account any pollution incidents that may have occurred at the site and details of any measures put into place to mitigate the effects of any such incidents. It serves two main purposes:

- firstly, it will act as a reference point, along with operating records, for measuring any deterioration of the site whilst operating under the permit (on surrender of the permit, another site report must be prepared, identifying any changes to the condition of the site from that described in the original report); and
- secondly, the ASCR will give information on the physical attributes and vulnerability of the site; it will assist in understanding the environmental setting of the site, and understanding the nature, extent and behaviour of any contaminants that may be present; local hydrology, hydrogeology, geology and general setting are taken into account.

9.4. The desk study as part of the ASCR indicated that the proposed Installation was previously operated as a saw mill which could have potentially been a source of contamination from the treatment and preservative chemicals which may have been used. The Installation was also previously operated as a builder's merchant and clothing distribution unit which are both unlikely to have been a source of contamination due to the nature of the activities and the concrete surfacing acting as an impervious barrier.

9.5. A walkover survey was conducted on site in order to determine the current condition of the site, in particular to identify evidence of potential contamination in the area. During the site walkover survey, no visual or olfactory evidence of contamination was observed.

10. BAT ASSESSMENT

10.1. The BAT Requirements for the proposed Installation have been taken from Guidance Note EPR 4.02 Speciality Organic Chemicals Sector and the Manufacture of Organic Fine Chemicals BREF which specifically references pharmaceutical product.

10.2. It is considered that the techniques that will be in use at the proposed Installation will constitute BAT and will be appropriate and proportionate for the scale of the activities and the risks that are posed to the environment by these activities.