



Where
buildings
come alive

MARS

Mars Birstall, Ammonia Project – Ventilation & Extraction Statement

250607

Planning Statement

Birmingham | Nottingham | Huntingdon | Leeds | Bristol | Leicester | London | Manchester | Derby | Poland | India

www.cpw.com



Sustainability at our core.

Document Revision History

Ref

250607 – Mars Birstall_V&E Statement

Rev	Author	Verification By	Date	Suitability	Comments / Status
P01	G. Whitaker	N. Shead	June 2025		First Issue

©2025 Couch Perry Wilkes

Couch Perry Wilkes shall not be liable in whole or part for any use of this document beyond such purpose(s) as the same was originally prepared or provided nor shall Couch Perry Wilkes be liable for any misinterpretation as to such intended purpose(s).

Contents

Section	Description	Page No
1.0	Introduction	4
2.0	Strategy	5
3.0	Design Approach	5
4.0	Ventilation and air quality	5
5.0	Noise and acoustics	6
6.0	Conclusion	7

MARS Birstall

Climate Change Statement



1.0 Introduction

The purpose of this report is to clarify the approach to the proposed development in relation to the principles set out in Kirklees Council's development policies in relation to Ventilation & Extraction.

The proposed site is:

Name of applicant/agent	Mars Pet Nutrition UK
Site Address	Mars Care & Treats Oakwell Way Batley WF17 9LU
Description of Development	The project briefly comprises; the installation of new process chilled water-cooling plant to replace existing aged infrastructure, improve efficiency and reduce reliance upon F-gas refrigerants by replacing with natural refrigerants to reduce global warming impact.

This report has been prepared in response to Ventilation and/or Extraction detail requirements as follows:

The information will need to clearly demonstrate the proposed ventilation system will be sufficient to effectively control the likely odours that will come from the development so that they do not cause a loss of amenity and that the noise from operation of the equipment is also effectively controlled so that it does not cause a loss of amenity.

MARS Birstall

Climate Change Statement



2.0 Strategy

The purpose of this report is to clarify the approach to the proposed new process cooling installations at Mars, Birstall, in relation to Ventilation & Extraction. This is required to meet Kirklees Council and relevant Local Plan Policy requirements where ventilation or extraction equipment is to be installed, including proposals for the sale or preparation of cooked food, and commercial premises requiring dust and/or odour extraction, cooling or air handling equipment.

In order to meet Planning requirements, details of the position and design of ventilation and extraction equipment are required, which include technical specification including predicted noise levels, noise mitigation measures and odour abatement techniques where required.

3.0 Design Approach

The project primarily consists of the installation of new central process cooling plant, to replace existing legacy / life expired equipment. The key project objectives have been defined as:

- Replace F-Gas with natural refrigerant

Replacing F-Gas (Synthetic Refrigerants) systems with natural refrigerant systems to reduce global warming impact, futureproof site utilities, and enhance operational efficiency (Ammonia: 0 GWP).

- Upgrade aging plant

Replace aging standalone F-Gas systems to improve reliability and reduce running cost/carbon footprint.

- Centralise refrigeration systems

A centralised system enables maximum plant and distribution efficiency, and potential utilisation of waste heat in future.

- Unlock potential for low carbon heating (Electrification) as a future phase

Future potential to reduce steam consumption and gas boiler usage by harnessing waste heat through energy recovery.

In order to do this, the project requires the formulation of a new process chilled water plant and associated equipment, which shall be interlinked to existing distribution networks to support the ongoing process and production facility at Birstall. This work will enable the removal of c.15No existing life expired F-Gas chilled water plant and replacement with new Low GWP (Ammonia) chillers and associated equipment.

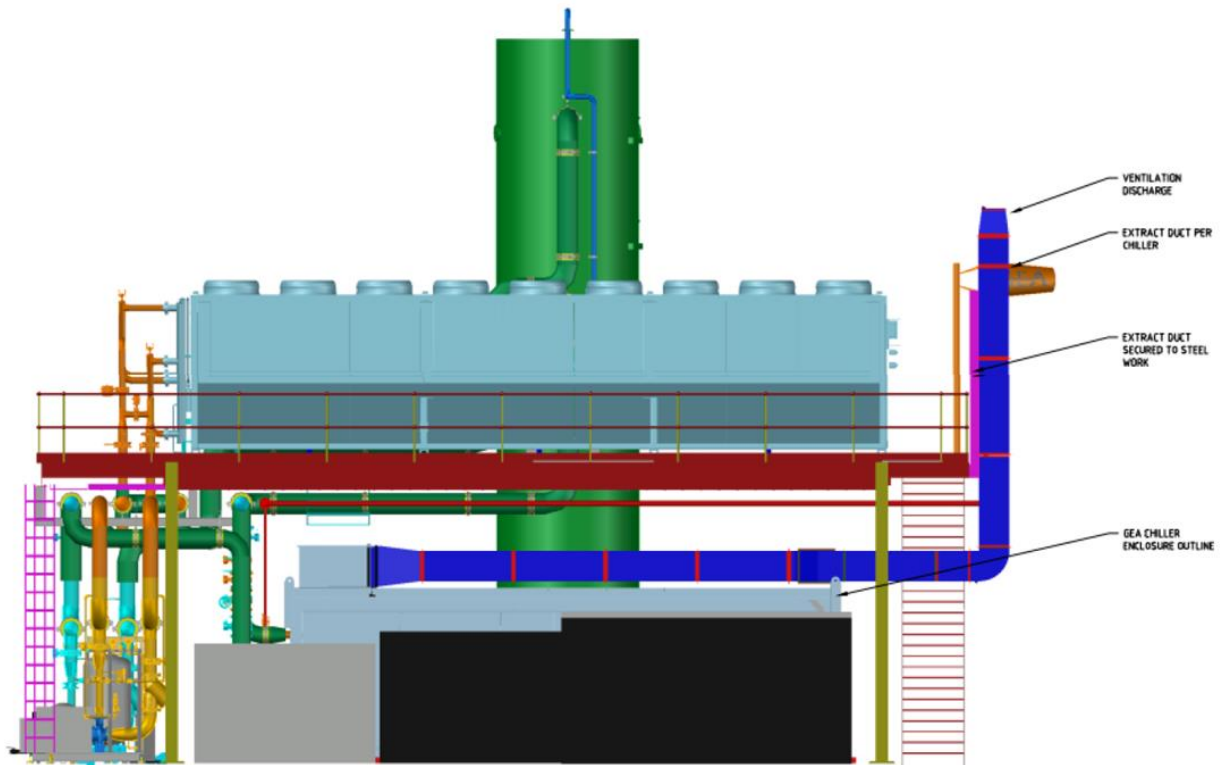
The proposed plant location within the confines of the existing site plan has been chosen to allow for the new system to be installed whilst the existing systems remain in normal operation, enabling a phased switch over from old to new systems, with reduced impact to production, and in order to minimise its impact on the surrounding accommodation and wider landscape.

4.0 Ventilation and air quality

The proposed new installations consist of a series of new chillers and associated pump skids, in plant enclosures along with liquid coolers mounted above to reject waste heat to atmosphere and maintain process cooling to the existing facility. There is also a future potential project phase to utilise the waste heat through energy recovery to supplement the buildings heat energy demand.

MARS Birstall

Climate Change Statement



Typical section through new chilled water process equipment

The proposed new chillers utilise Ammonia (with zero Global warming potential) to replace existing F-gas (Synthetic Refrigerants) systems with natural refrigerant in order to reduce global warming impact, future proof site utilities, and enhance operational efficiency. The systems proposed require no odour abatement, as they are a sealed system.

An extract duct per chiller is to be designed and installed in accordance with is designed as per EN378 guidelines which defines a minimum of 4 air changes during normal operation and 15 air changes during emergency, within closed spaces containing ammonia refrigerant, as a control measure in the event of a leak. The individual chillers have their own independent ammonia systems (ultra-low charge ~50kg) confined within their respective circuits with the enclosed space being the GRP housing of each chiller, with leak detection sensors in each zone. Each enclosure has duty/standby extract fans and a recirculation fan internally to ensure continued operation and relevant safety requirements are met, as can be seen in the typical section above. and ventilation / extract systems.

A DSEAR assessment & plume modelling will be undertaken to validate ventilation system design and ensure that any potential ammonia discharge is adequately controlled and dispersed to mitigate its impact on surroundings in the event of a failure, all in line with best practice.

5.0 Noise and acoustics

An independent acoustic report has been progressed in order to ascertain the likely impact of the new plant installations on both existing accommodation on site, and off-site receptors, and subsequent recommendations are to be provided to mitigate the risk of noise impact.

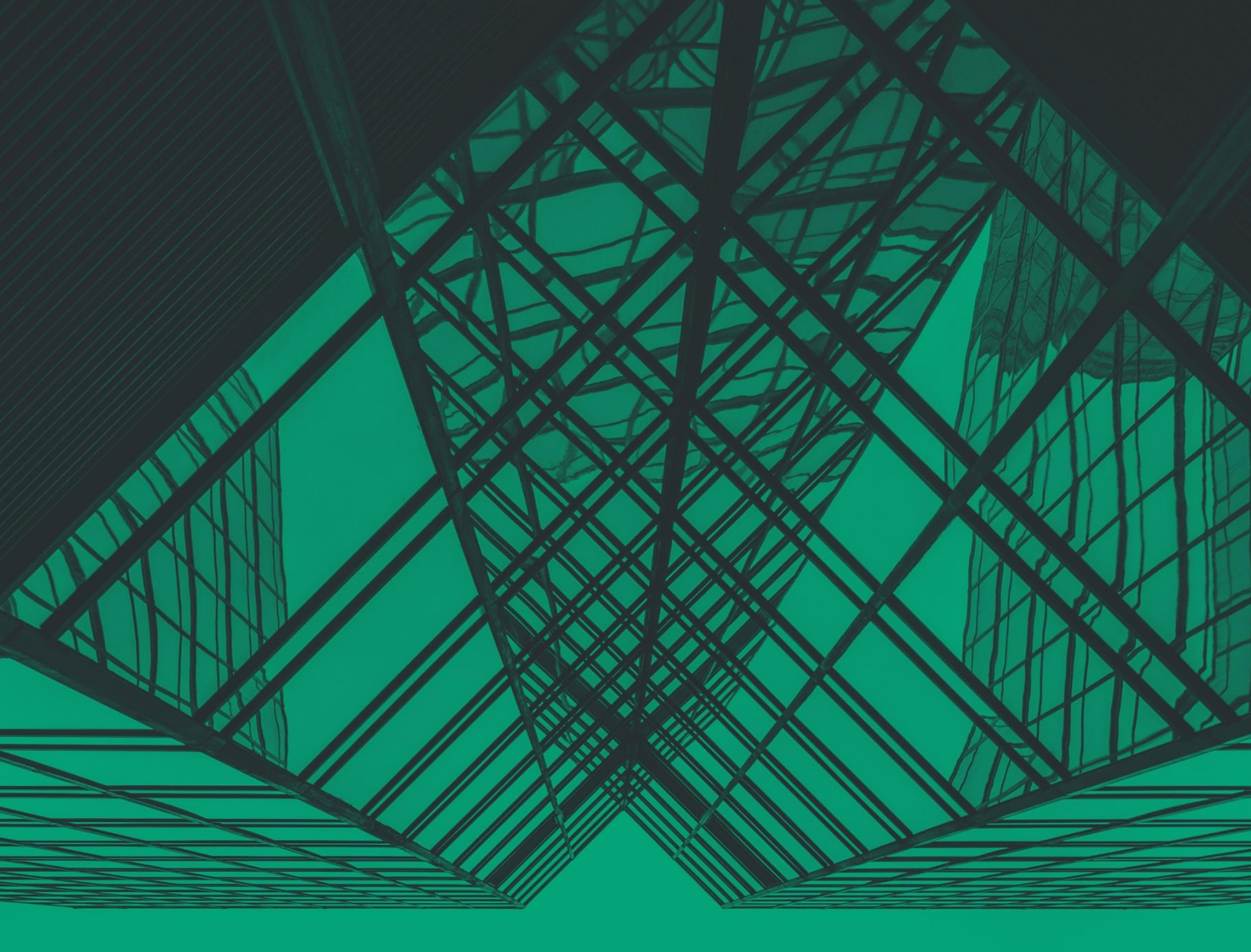
Climate Change Statement

The proposed new installations have been designed with best practice acoustic control measures incorporated into the extractions and discharge systems. The new plant and equipment is located within the confines of the existing site within an existing yard, and as such is located within an area of existing plant noise emission. The equipment itself generates a sound Pressure Level: Lpa87db(A) @ 1m distance in a free field, which does not include a reduction in noise level resulting from the GRP enclosure housing, which is estimated to approx. 10dBa reduction (all of which is to be assessed by the acoustic specialist to confirm actual noise conditions. The figures provided are based on data calculations for the proposed plant and equipment, with a conservative estimate of noise emission dependent on miscellaneous influences, such as operating speed, suction/discharge pressure and the resulting differential pressures. Measurement is therefore subject to ± 3 dB (A) IEC-Tolerance according to ISO 9614-1, with the worst-case value used for the acoustic assessment to ensure compliance with local guidance.

From experience on other similar sites and/or identical installations, it has been indicated that the implementation of further noise reduction measures is not required, however the findings of the acoustic assessment will inform the design proposals and any necessary enhancements if required.

6.0 Conclusion

The above statement confirms that the proposed new installations are aligned to the local planning authority requirements set out, and that all reasonable control measures will be in place to mitigate the risk of impact on both the existing site, and wider environment so that there is no loss of amenity.



Where
buildings
come alive

+44 (0) 113 2470 709

leeds@cpwp.com

www.cpwp.com

Studio 23/24

46 The Calls

Leeds

LS2 7EY

CPW & couchperrywilkes are trading styles of:

- Couch Perry & Wilkes LLP (Registered Number: OC317478)
- Couch Perry & Wilkes Environmental LLP (Registered Number: OC366464)
- Couch Perry Wilkes East Midlands LLP (Registered Number: OC373814)
- Couch Perry & Wilkes (Acoustics) Limited (Registered Number: 13392985)
- C.P.W. Services Limited (Registered Number: 01554095)

All are registered in England & Wales. Registered Office: Interface 100, Arlestone Way, Solihull, B90 4LH