



City of
BRADFORD
METROPOLITAN DISTRICT COUNCIL

Environmental Permit Compliance Assessment – September 2024

Permit Reference: 213

Operator: P Waddington and Co (1947) Ltd

**Installation Address: The Refinery, 54 Buck Street, Bradford, BD3
9LP**

1. Permit Condition 1.1

The best available techniques (BAT) shall be used to prevent, or where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation which is not regulated by any other condition of this permit.

There is no evidence of compliance with IPPC Sector Guidance Note 8 (SG 8), BAT 9, which states;

Ensure that liquid entrainment in the duct of wet arrestment, leading to droplet fallout, does not occur as a result of the linear flow rate within the duct exceeding 9m/s.

It was not clear what the linear flow rate within the duct of the wet scrubber systems on site is.

Additional Comment(s):

The site utilises mist eliminators in the wet scrubber stacks to reduce the potential for unacceptable droplet emissions to atmosphere. Additionally, the company conducted a calculation based on duct size and air speed in 2021, which suggests that the velocity is approximately 7.5 m/s, however the measurement location was deemed to be poor, so it is not clear to what extent this velocity is representative of general airflow within the duct (Report ref: ED 14823137).

Further to guidance in paragraph 3.32 of SG 8, additional work is required to confirm the linear velocity within the ductwork. Where a linear velocity of 9 m/s is exceeded in the ductwork, the linear velocity should be reduced (subject to health and safety considerations) to further reduce the potential for droplet fallout.

Please note that the building extraction system is an engineering control that also has a function in reducing employee exposure to harmful substances. If this system considered to be an engineering control measure within the associated risk assessments, the system should receive Thorough Examination and Testing (TExT) at suitable intervals (in accordance with Regulation 9(2) of the Control of Substances Hazardous to Health (COSHH) Regulations 2002), to ensure it continues to perform as intended. Part of this process would include taking airflow measurements.

2. Permit Condition 2.8

As part of the routine maintenance programme, flues and ductwork shall be cleaned annually to remove any accumulation of materials.

The officer was unable to see any evidence of this having been undertaken at the time of the visit. The officer was advised that this is undertaken in January each year.

Additional Comment(s):

Evidence was subsequently provided by the company on request demonstrating that the ducts were last cleaned on 6/3/2024. A procedure and risk assessment is also available for this activity, which will be reviewed at the next inspection.

3. Permit Condition 2.9

Exhaust gases from the stack serving the boilers and thermal oxidiser shall achieve an exit velocity greater than 15 metres per second under normal operating conditions, to achieve adequate dispersion.

Officers were unable to view any evidence of compliance with this condition. Exhaust gas velocity was not included in the recent emissions monitoring report, reference ED19193110.

It was noted that dispersion from the oxidiser stack did not appear to be an issue at the time of the inspection.

Additional Comment(s):

The Company have arranged for velocity tests to be included in the next monitoring campaign. The Company also carried out a calculation based on the design specifications which indicates that the velocity is adequate.

4. Permit Condition 3.8

The operator shall ensure that;

- a) All operational areas are equipped with an impervious surface, spill containment kerbs, sealed construction joints, and connected to a sealed drainage system.*
- b) Keep records of the design and conditions of the surfacing of all operational areas.*
- c) Have an inspection and maintenance programme of impervious surfaces and containment kerbs.*

Officers were unable to view records of design and conditions of surfaces of operational areas. Additionally, it was discussed that there is currently no formal programme for inspecting these areas.

Additional Comment(s):

It is recognised that additional planning documents are available that were not seen at the time of the inspection. Since the inspection, the Company have also implemented a formal program and included these inspections within their weekly checks.

5. Permit Condition 3.9

All storage tanks shall:

- a) Be fitted with high level alarms of volume indicators to warn of overfilling. Tallow and condensate storage tanks shall be fitted with audible and visual alarms located within the control rooms.*
- b) Have delivery connections located within a bunded area, fixed and locked when not in use.*
- c) Have their integrity inspected and recorded. Such inspections shall be included in the maintenance schedule.*

The delivery connections to the tallow storage tanks were not fixed and locked within a bunded area at the time of inspection.

Additionally, Officers were unable to view any evidence of integrity inspections having been undertaken on the tanks.

Additional Comment(s):

Since the inspection pipework has been re-routed to ensure that the delivery connection remains within the bunded area.

All Dolavs have been removed.

The Company have advised that this is undertaken as part of the maintenance programme, and monitoring for any change or damage is part of the daily checks for the site.

6. Permit Condition 3.10

The operator shall ensure that all tanks containing liquids whose spillage could be harmful to the environment are contained. The operator shall ensure that all bunds:-

- a) are impervious and resistant to the stored materials*
- b) have no outlet and drain to a blind collection point*
- c) Have pipework routed within bunded areas with no penetration of contained surfaces*
- d) Are designed to catch all leaks from tanks or fittings*
- e) Have a capacity of at least 110% of the largest tank*
- f) Are visually inspected weekly, and any content removed under manual controls after checking for contamination.*
- g) Have an annual maintenance inspection*

Parts of the pipe work to the tallow tanks is not routed within bunded areas.

There was evidence of poor maintenance in one area, resulting in a leak that was not contained within the bund.

There was no evidence of compliance with condition 3.10F, and content in bunds had not been removed.

At the time of visit, water had been left on from part of the plant and a hose was filling the bund below the tallow tanks, reducing the available capacity in the event of a leak.

There was no evidence of a formal annual maintenance inspection schedule or having been undertaken previously.

Additional Comment(s):

Since the inspection contamination has been removed from the bunds.

Pipework has now been routed within bunded areas. A maintenance issue identified on the pipe along the bund wall has been resolved. Additional work is required to

either re-route the previously damaged pipe or extend the bund to ensure compliance with Condition 3.10(c).

The Company have undertaken calculations based on the size of the bund and the size of the tanks to ensure that sufficient capacity is available, even if the bund partially fills with rainwater.

7. Permit Condition 4.2

Olfactometric testing shall be undertaken on emissions from the thermal oxidiser and two chemical scrubbers on an annual basis, with triplicate samples from all sampled emissions. Testing shall be undertaken in the months of May or June each year, starting in 2021. Results shall be submitted to the regulator as soon as they are made available to the operator, and in any event no later than within 8 weeks of sampling.

This testing was undertaken on 6th June 2024, and the report was submitted to us on 13 August 2024, following several requests to see it. This is more than 8 weeks from the date of sampling.

8. Permit Condition 4.5

Operations shall be fully enclosed and controlled to minimise fugitive emissions.

Operations generally enclosed, with process buildings kept under negative pressure, however the following issues were identified: -

On 23rd September 2024, a manhole cover had been removed so a blocked drain could be cleared. However, the drain was left open and no operator was present within the vicinity. This was causing a strong odour, which would have been detectable beyond the site boundary, and also presented a health and safety risk.

Additionally, there were various issues identified in the area around the tallow storage tanks. This included contamination present within the bunds, leaks from plant connections, and storage containers left open and exposed, all of which will be contributing to fugitive emissions from the site.

It was also noted that the pressure differential between the MBM Shed and the external area appeared to be very low, resulting in fugitive emissions from the building each time the doors are opened. This area is the suspected source of several complaints where MBM odours have been detected beyond the site boundary.

Additional Comment(s):

Contamination has been cleared from the bunds around the tallow storage tanks.

Repairs have been made to parts of the plant that were previously leaking.

All Dolavs have been removed from this area. Dolavs with lids have been procured for solids transport.

The Company has implemented procedural changes for delivery vehicles, to reduce the potential for fugitive emissions and contamination within the bunds as a result of drips or blow back.

A fob control system has been introduced on the door to the MBM storage shed, allowing drivers to open the door and close it behind them without the need to exit their vehicle. This will reduce the time that the door is kept open, reducing the potential for fugitive emissions. The Company have advised that they will continue to monitor this area and consider whether any additional measures can be implemented to further improve the situation.

9. Permit Condition 4.7

In normal operations, emissions from the cookers shall be collected and treated via incineration within the thermal oxidiser.

There was evidence of leaks from various parts of the plant, including the cookers and presses.

It was unclear to what extent emissions from the process were able to escape the system. Normally, this would be detectable by elevated odour levels within the inlet, and potentially the outlet of the scrubbers. However, due to the issues mentioned in section 27 below, this was not possible.

Please note that this is also a health and safety matter for employees working in the area, who may be exposed to harmful substances which are generated by the process but escape before treatment in the oxidiser. There is currently no evidence available to indicate the levels that workers may be exposed to.

Additional Comment(s):

The Company have advised that equipment is being maintained and further works will be undertaken to prevent excessive leaking of gases from cookers and presses.

New side guards have been ordered for the presses, which should reduce vapour release.

10. Permit Condition 4.14

The operator shall make an inventory of fugitive emissions. The inventory shall be updated on an annual basis and submitted to the regulator to demonstrate progress on reducing emissions. The inventory shall be submitted to the regulator on or before 31st January each year.

The fugitive emissions inventory was being updated annually as required, however it was submitted on 19th February 2024. This was noted as a minor non-compliance and was discussed during the inspection.

Additional Comment(s):

The 2025 fugitive emissions inventory has been submitted in advance of the 31st January deadline.

11. Permit Condition 4.15

Loading of MBM into trailers or containers shall only take place in a fully enclosed area. Trailers or containers shall be fully sheeted or covered before leaving the enclosed area.

This operation takes place in an enclosed area, and trailers are sheeted before leaving, however it was noted that the door to this area is a slow shutter door. All other roller doors on site are rapid roll doors.

It was discussed that MBM odours have been detected off site, and that this area is a potential source of the odour. The other potential sources are the MBM storage shed, and vehicle movements.

Additional Comment(s):

The Company have advised that they are currently considering options and looking at prices for a replacement door to the MBM loading area, which could further reduce fugitive emissions by reducing the time that the door is open per vehicle movement.

A fob control system has been introduced on the door to the MBM storage shed, allowing drivers to open the door and close it behind them without the need to exit their vehicle. This will reduce the time that the door is kept open, reducing the potential for fugitive emissions.

The Company have advised that they will continue to monitor this area and consider whether any additional measures can be implemented to further improve the situation.

12. Permit Condition 4.16

Trailers containing MBM shall be kept within the meal loading area prior to removal from site to prevent the contravention of condition 4.1.

This condition requires review, as trailers are not kept in the meal loading area prior to removal. These trailers are kept in the MBM shed, which is also enclosed and kept under negative pressure.

This condition will be updated at the next permit review.

13. Permit Condition 4.18

The operator shall implement an odour management plan, which will identify the measures needed to comply with condition 4.1. The odour management plan shall be reviewed on an annual basis.

The most recent Odour Management Plan (OMP) available to view at the inspection was dated December 2022.

Additional Comment(s):

The Company have advised that the OMP was reviewed in December 2023 (v1.1), however the officer was unable to view this version at the time of the site visit.

A further review of the OMP has been completed in January 2025 and this will be made available at the next inspection.

14. Permit Condition 5.4

The hours of operation of both cookers shall be continuously recorded.

Hours of operation were being manually logged in a notebook in the control room.

Continuous monitoring appeared to be taking place via the SCADA system and could be viewed on a graph, however operators were unclear on how to retrieve this data.

Additional Comment(s):

The Company advise that the operation cannot function without the thermal oxidiser, as effluent from the cookers would rapidly fill up the condensate tank stopping the process. The hours of operation for the thermal oxidiser are continuously recorded.

A discussion has been held between the company and the Officer in relation to how long records for cookers should be kept as this may require some changes to the software.

This permit condition will be reviewed at the next permit review, to ensure that it is clear as to how long records must be kept. This will provide clarity to the Company on what they must do to comply with this condition and ensure that officers can assess compliance at future inspections.

15. Permit Condition 5.6

The raw materials reception and storage area shall be totally enclosed, and constructed so that the surfaces are impervious. All surfaces and equipment likely to come into contact with raw or processed materials shall be impervious, capable of being readily cleansed, and shall be kept clean.

This area was totally enclosed, with impervious surfaces, however it was not kept clean. It was clear that a deep clean has not taken place in quite some time.

Additional Comment(s):

This area has now been cleaned. The cleaning programme has been reviewed and placed on the system for staff to access.

16. Permit Condition 5.9

All points of transfer shall be designed to be leak and spill-proof.

There was evidence of leaks from multiple parts of the plant, particularly in the SBO area.

Additional Comment(s):

The Company have acknowledged that the SBO pumping system requires attention, and maintenance is ongoing.

They have also made enquiries in relation to alternate pump designs that could allow for more rapid, in situ repairs to be completed.

17. Permit Condition 6.1

The handling and treatment of liquid effluent shall be carried out so as to minimise the emission of offensive odours.

The following contraventions were identified:-

The door to the Dissolved Air Flotation (DAF) plant had been left open on 23rd September 2024, resulting in an odour that was detectable at the site boundary. It was unclear why this door had been left open.

Additionally, on 23rd September, a drain cover had been removed for it to be cleared, however it had been left uncovered, with no operator in the vicinity. This was causing a strong odour which would have been detectable beyond the site boundary, and also presented a health and safety risk.

Additional Comment(s):

The Company have acknowledged that these issues should not have occurred, and they have taken steps in relation to operator management to prevent a recurrence.

A stub shaft replacement on the cookers is underway to reduce leaks, to minimise leaks and blockages within the drains.

The Company have also advised that an OEM Haarslev pump design will be applied to the SBO drainage system.

18. Permit Condition 7.3

A comprehensive cleaning programme shall be implemented. Such a programme shall include all structures, equipment, and internal surfaces, non-disposable containers used for raw materials collections, drainage, collection tanks, yards, roads, and abatement plant.

The cleaning programme shall be documented and reviewed annually.

The officer was unable to view any documented evidence of a cleaning programme for the plant during the inspection, and the condition of some areas of the plant indicated that they had not been cleaned in quite some time.

Additional Comment(s):

The cleaning programme has been reviewed, and staff have been trained on how to access this on the system.

19. Permit Condition 7.4

All spillages shall be cleaned up immediately, and preventative measures put in place to avoid a recurrence of the incident causing the spillage.

There was evidence of a spillage having occurred during the cleaning of a drain near the DAF plant. Discussions at the time suggested that this had occurred at some point during the night shift, however it could not be explained why it had not been cleaned up.

Additionally, discussions indicated that this is not the first time this has occurred, and it is not clear what preventative action has been taken to prevent a recurrence.

Additional Comment(s):

The Company have advised that internal investigations indicate that this was a result of a blockage that was being dealt with at the time of the visit.

Works on the cooker stub shaft, and the OEM Haarslev pump design improvements are underway, which will reduce the likelihood of future blockages.

20. Permit Condition 8.1

Effective operational maintenance systems shall be employed on all aspects of the installation whose failure could impact on the environment. There shall be:-

- a.) Documented operation control procedures*
- b.) A documented preventative maintenance schedule, covering all plant whose failure could lead to an impact on the environment, including major "non-productive" items such as tanks, pipework, retaining walls, bunds, ducts, and filters. This shall be reviewed and updated annually.*
- c.) There shall be a documented procedure for monitoring emissions, including noise and odour.*

I was unable to view comprehensive operation control procedures, or a documented maintenance schedule. Information relating to this condition was kept in various locations on the system, therefore it is possible that some documents were not identified.

Additional Comment(s):

The EMS has been reviewed and updated, with more procedures added to the system for easy access.

The maintenance schedule and preventative maintenance list has also been reviewed and placed on the system.

21. Permit condition 8.2

There shall be a list of key process equipment and arrestment equipment. Such equipment shall be provided with alarms or other such warning systems which indicate equipment breakdown. Such warning systems shall be maintained and checked to ensure correct operation in accordance with the manufacturer's recommendations. The failure of key plant shall be notified to the regulators immediately if the failure would cause an adverse effect on the environment or give rise to offensive odours beyond the site boundary. The operator shall have a documented plan for dealing with the failure of key plant.

Much of the information relating to this condition could be found in the HACCP plan, and the "Disaster Plan", as well as other documents, however a specific list as required by this condition was not readily available.

A documented plan for dealing with the failure of key plant was not available.

Additional Comment(s):

A list of key environmental equipment has been constructed as part of the maintenance list. Reference to key equipment is also part of the OMP.

The Disaster Plan has also been updated.

22. Permit Condition 12.1

The operator shall carry out a review of water usage every 12 months, and shall be submitted to the regulator by 31st January each year.

An annual review of water usage was being conducted; however, the most recent report was submitted to the regulator on 29th February 2024. This was noted as a minor non-compliance and was discussed during the inspection.

Additional Comment(s):

Following discussions with the operator, it is apparent that the deadline of 31st of January is often difficult to meet, due to other reporting requirements, and the availability of data from utilities.

This condition will be reviewed at the coming permit review; the requirement for annual review and reporting of water usage will remain, however the deadline will be moved to the 1st of March.

A dispensation has been provided to allow for the 2025 submission to also be made by 1st March.

23. Permit Condition 13.1

The operator shall:-

- a.) Record the quantity, nature, origin, and where relevant, the destination, frequency of collection, mode of transport and treatment method of any waste which is disposed of or recovered.*
- b.) Ensure that the waste storage areas are clearly marked and signed, and that containers are clearly labelled.*
- c.) Ensure that appropriate storage facilities are provided for substances that are flammable, sensitive to heat or light etc, and that incompatible waste types are kept separate.*
- d.) Ensure that containers are stored with lids, caps, and valves secured and in place (this also applies to emptied containers).*
- e.) Ensure that procedures are in place to deal with damaged or leaking containers.*
- f.) Segregate waste wherever practicable.*
- g.) Identify the disposal route for all waste, which should be as close to the point of production as possible.*

Various containers were found without lids around the external areas of the site.

Waste storage areas were not clearly marked and signed, and containers were not labelled. Waste was not being segregated prior to leaving the site.

Additional Comment(s):

Plans in place to review waste management on site, in line with Simpler Recycling legislation, which requires separation from 1st April 2025.

Cardboard separation is to be restarted. Dolavs with lids to be made available for use with cans or plastics. This will be in place on or before 1st April 2025.

24. Permit Condition 15.1

The operator shall produce a report annually on the energy consumption of the installation and the report shall be submitted to the regulator by 31st January each year.

An annual report on the energy consumption of the installation was being conducted; however, the most recent report was submitted to the regulator on 29th February 2024. This was noted as a minor non-compliance and was discussed during the inspection.

Additional Comment(s):

Following discussions with the operator, it is apparent that the deadline of 31st of January is often difficult to meet, due to other reporting requirements, and the availability of data from utilities.

This condition will be reviewed at the coming permit review; the requirement for annual review and reporting of energy consumption will remain, however the deadline will be moved to the 1st of March.

A dispensation has been provided to allow for the 2025 submission to also be made by 1st March.

25. Permit Condition 16.2

The operator shall maintain an accident management plan that identified the hazards, assesses the risk and identifies measures required to reduce the risk of potential events or failure that might lead to an environmental impact. The plan should identify:-

- a.) The actions to be taken to minimise these potential occurrences; and*
- b.) The actions to deal with such occurrences so as to limit the consequences*

A copy of the accident management plan was not readily available; however, it was advised that such a plan is in place. I have requested to see evidence of this.

Additional Comment(s):

This information is part of the site Disaster Plan, last updated as v10 on 5/3/2024 but was still flagged as “in progress”. This has now been completed.

26. Permit Condition 16.5

The operator shall maintain procedures for the control of spills, and of firewater to ensure containment and disposal in order to prevent or minimise pollution.

A copy of this procedure was not available during the inspection.

Additional Comment(s):

This procedure has been updated and is now available.

27. Permit Condition 18.3

All results submitted to the regulator shall include full details of process conditions at the time of monitoring, monitoring uncertainty, as well as any deviations from the procedural requirements of standard reference methods and the error invoked from such deviations.

Report reference ED19193110 does not include full details of process conditions at the time of monitoring, no details of monitoring uncertainty, and includes no reference to any deviations from the procedural requirements of any standard reference methods, nor the error invoked from those deviations.

Additional Comment(s):

The Company have recognised this omission and will ensure that full process conditions are included in future monitoring reports.

28. Permit Condition 18.4

The results of non-continuous emission testing shall be forwarded to the regulator within eight weeks of the completion of sampling.

The most recent emissions monitoring exercise was undertaken on 6th June 2024, and the report was submitted to us on 13 August 2024.

29. Permit Condition 18.9

Where available, operators shall use monitoring equipment and instruments certified to MCERTS and use a stack testing organisation accredited to MCERTS standards, or such alternative requirements as approved by the regulator.

Ricardo AEA are not currently accredited to MCERTS standards for odour monitoring.

It is acknowledged that Ricardo AEA are highly experienced in this field, and have worked with the Environment Agency in developing parts of the guidance around odour monitoring and best available techniques at animal rendering facilities.

Ricardo have advised that all monitoring works have been undertaken in compliance with the Method Implementation Document for EN 13725 (Air Quality – Determination of Odour Concentration by Dynamic Olfactometry)

Whilst it appears that all site work has been undertaken in compliance with the relevant standards and method implementation documents (as required by MCERTS), the report currently does not comply with the '*MCERTS performance standard for manual stack emissions monitoring organisations*', in particular paragraph 7.8.3 which requires the report to include comprehensive information about process conditions and monitoring details. This reduces the amount of information that can be drawn from the results.

Additional Comment(s):

The Regulator is currently making enquiries in relation to this issue, to ensure consistency among Local Authorities.