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Project No: 313306

Appropriate Measures

Prepared for:

2ZLF Ltd

West Meadows Industrial Estate

Derby

DE21 6HA

Contents Amendment Record

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Executive Summary

The installation will continue to accept, treat and transfer a range of hazardous and non-hazardous waste streams. Hazardous materials accepted are generally at the lower end of the hazardous waste threshold, i.e., for PAH and PTE content.

The relevant Technical Standards for this operation are:

- Waste Treatment BREF BAT-Conclusions (EUR-Lex - 32018D1147 - EN - EUR-Lex (europa.eu) [S5.3 and S5.6 activities][1]
- The hazardous waste storage and treatment and the requirements of 'Chemical waste: appropriate measures for permitted facilities'[2].

The sites infrastructure has been developed from the outset so that the site is capable of handling and treating a range of non-hazardous and hazardous waste streams.

Waste management activities include physico-chemical treatment off-site, bulking of the recovered materials and the storage of waste and waste materials prior to despatch are undertaken at the site.

The site is operated in accordance with an Environmental Management System which is accredited to ISO 14001:2015, providing written procedures for the management of the facility, including effective maintenance of plant, equipment and site infrastructure. All operations at the site are managed by a Technically Competent Manager [TCM] who ensures that the procedures in the EMS are followed.

As the operation will be classed as an 'installation' it is required that it meets the relevant technical standards; in this case those referenced within the Waste Treatment BREF BAT Conclusions.

[1] COMMISSION IMPLEMENTING DECISION (EU) 2018/ 1147 - of 10 August 2018 - establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/ 75/ EU of the European Parliament and of the Council - (notified under document C(2018) 5070) (europa.eu)
[2] Chemical waste: appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

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Section 1.0: Introduction

The operation will change from a waste 'facility' to a waste 'installation' due to a proposed increase in the storage and throughput capacities of hazardous wastes at the site above the relevant thresholds.

Non-hazardous waste treatment and storage will remain as allowed under the current permit.

Hazardous waste storage will increase to 150t, from 50t, and throughput will exceed 10t/day to a maximum 100t/day.

SECTION 5.3 Disposal or recovery of hazardous waste
Part A(1)
(a)Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities—
(ii)physico-chemical treatment;

SECTION 5.6 Temporary or underground storage of hazardous waste
Part A(1)
(a)Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections 5.1, 5.2, 5.3 and paragraph (b) of this Section, except—
(i)temporary storage, pending collection, on the site where the waste is generated, or
(ii)activities falling within Section 5.2.

As required of the relevant application forms, the Best Available Techniques (BAT) assessment is included. The site currently operates under an Environmental Permit [EPR/AB3904UQ] [WML400948], issued by the Environment Agency in 2015, that allows it to accept wastes as described in the permit. There is no proposal to add any wastes to those currently accepted.

The Permit has subsequently been varied to include additional EWC codes and extend the site boundary [EPR/AB3904UQ/V004].

The operation is currently permitted as an A16 Physical Treatment Facility which is *permitted to receive and treat wet and de-watered street sweepings and gully wastes and trommel fines to recover and recycle aggregates and other materials.*

The purpose of this variation application is to increase the volume of hazardous wastes stored and subsequently treated for further recovery and disposal where required.

There are no amendments to;

- EWC codes accepted, (please note there are some amendments to descriptions)

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- Overall tonnage accepted at the site
- Site boundary

The following sections apply to treatment activities (treating chemical wastes by a method other than incineration):

- General management
- Waste pre-acceptance, acceptance and tracking
- Waste storage, segregation and handling
- Waste treatment
- Emissions control
- Emissions monitoring and limits
- Process efficiency (measures for using energy, raw materials and water apply to IED installations only)

These measures are covered by the BAT Conclusions for waste treatment document. This is acknowledged by the Environment Agency:

"There is a lot of overlap between best available techniques (BAT) for waste installation facilities and necessary measures for waste operation facilities. The Environment Agency uses the term 'appropriate measures' to cover both sets of requirements".

The following table, below, taken from the Appropriate Measures guidance, indicates that these measures are, indeed, interchangeable with BAT Conclusions and this is further demonstrated by the wording on Environmental Permits which suggests that the Operator "must follow BAT or 'appropriate measures'".

Therefore, for a full appraisal of adherence to appropriate measures, please refer to separate document.

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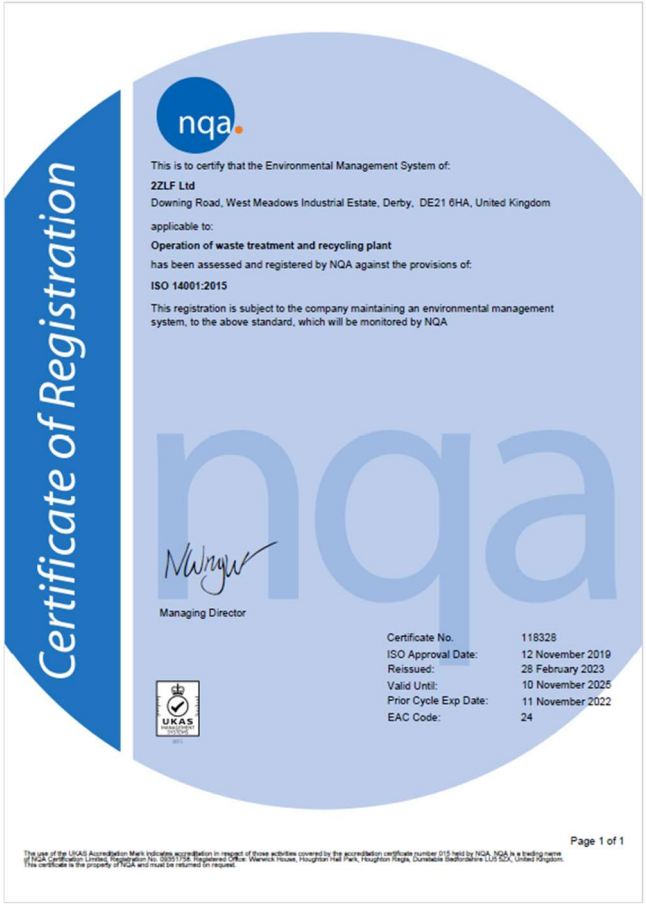
Section 2.0: Appropriate Measures

Appropriate Measures Guidance	Justification of Adherence to Appropriate Measures
Management System: 1. You must have and follow an up-to-date, written management system that incorporates the following environmental performance features: You have • management commitment, including from senior managers • an environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment. You implement your environmental performance procedures, paying particular attention to: • staff structure and relevant responsibilities • staff recruitment, training, awareness and competence • communication (for example, of performance measures and targets)	Up to date ISO14001 Environmental Management System in place: 

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• employee involvement • documentation • effective process control • maintenance programmes • managing change • emergency preparedness and response • making sure you comply with environmental legislation You check environmental performance and take corrective or preventative action, paying particular attention to: • monitoring and measurement • learning from incidents, near misses and mistakes, including those of other organisations • records maintenance • independent (where practicable) internal or external auditing of the management system to confirm it has been properly implemented and maintained Senior managers review the management system to check it is still suitable, adequate and effective. You review the development of cleaner technologies and their applicability to site operations.	

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When designing new plant, you make sure you assess the environmental impacts from the plant's operating life and eventual decommissioning. You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks. You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking. You have and maintain the following documentation: • inventory of emissions to air and water • residues management plan • accident management plan • site infrastructure plan • site condition report • odour management plan, if required • noise and vibration management plan, if required • dust management plan, if required • pest management plan, if required • fire prevention plan, if required • climate change risk assessment, if required	

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Your management system can also include, for example, product or service quality, operational efficiency and health and safety in the workplace.	
Staff Competence: 1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence. 2. The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people. 3. You must have appropriately qualified managers for your waste activity who are members of a government-approved technical competency scheme. 4. The person carrying out the technical appraisal of a waste's suitability for receipt at pre acceptance must have the minimum of a Higher National Certificate (HNC) in chemistry (or equivalent qualification). For the following wastes, technical appraisals must be carried out by a person who has had enough training to determine the suitability of the waste for the site: • asbestos • contaminated clothing and rags	COTC holder in place with appropriate level of COTC award (4TMH: Managing Treatment of Hazardous Waste) It will be ensured that the person carrying out the technical appraisal of a waste's suitability for receipt at pre acceptance will have the minimum of a Higher National Certificate (HNC) in chemistry (or equivalent experience/qualification).

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• ‘articles’, for example waste electronic equipment or batteries • contaminated wood • solid non-hazardous waste other than ‘mirror entries’ (where waste may be allocated to a hazardous entry or to a non-hazardous entry according to the European List of Waste) 5. If you need to sample, check (other than visually), or test a hazardous waste when you accept it, acceptance must be supervised by someone with the minimum of an HNC in chemistry (or equivalent qualification). At sites where the waste needs only a visual check, the person who receives the waste must have had enough training to be able to identify and manage any non-conformances in the load received. 6. You must make sure that any required sample is representative of the waste and has been taken by someone technically competent to do so. 7. Any required analysis must be done by someone with the minimum of an HNC in chemistry (or equivalent qualification). 8. Non-supervisory staff must be reliable and technically skilled. Their skills may be based on experience and relevant training.	

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Accident Management Plan: 1. As part of your written management system you must have a plan for dealing with any incidents or accidents that could result in pollution. 2. The accident management plan must identify and assess the risks the facility poses to human health and the environment. 3. Particular areas to consider may include: • waste types • vessels overfilling • failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains) • failure of containment (for example, bund failure, or drainage sumps overfilling) • failure to contain firefighting water • making the wrong connections in drains or other systems • preventing incompatible substances coming into contact with each other • unwanted reactions and runaway reactions • checking the composition of an effluent before emission • vandalism and arson • extreme weather conditions, such as flooding or very high winds	An accident Management Plan will be in place throughout the use of the facility as an Installation.

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4. You must assess the risk of accidents and their consequences. Risk is the combination of the likelihood that a hazard will occur, and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing 6 questions: • how likely is it that the accident will happen? • what may be emitted and how much? • where will the emission go – what are the pathways and receptors? • what are the consequences? • what is the overall significance of the risk? • what can you do to prevent or reduce the risk? 5. In particular, you must identify any fire risks, for example from: • arson or vandalism • self-combustion, for example due to chemical oxidation • plant or equipment failure and electrical faults • naked lights and discarded smoking materials • hot works (for example welding or cutting), industrial heaters and hot exhausts • reactions between incompatible materials • neighbouring site activities	

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• sparks from loading buckets • hot loads deposited at the site 6. The depth and type of accident risk assessment you do will depend on the characteristics of the plant and its location. The main factors to take into account are the: • scale and nature of the accident hazard presented by the plant and its activities • risks to areas of population and the environment (the receptors) • nature of the plant and complexity of the activities, and how difficult it is to decide and justify adequate risk control techniques 7. Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must give them clear guidance on how to manage each accident scenario, for example, whether to use containment or dispersion to extinguish fires, or let them burn. 8. You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.	

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9. You must also: • establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident • have appropriate emergency procedures, including for safe plant shutdown and site evacuation • have post-accident procedures that include making an assessment of the harm that may have been caused by an accident and the remediation actions you will take • test the plan by carrying out emergency drills and exercises	
Accident Prevention Measures: You must take the following measures, where appropriate, to prevent events that may lead to an accident. **Segregating waste** 1. You must keep apart incompatible or segregated wastes and substances by their hazardous properties. 2. You must segregate incompatible waste types into bays or store them in dedicated buildings. The minimum requirement is to use a kerbed perimeter and separate drainage collection. You must also have	An Accident Management Plan will be in place throughout the Installation activities to identify: • Likely causes of accidents; • The consequences of such accidents; • Prevention measures in place to reduce the likelihood of accidents; and How any accidents that do occur will be managed. **Protection measures:** The site is site is surrounded by a perimeter fence and has a lockable gate to the entrance. This gate is closed and locked always when staff are not present on site. The site is fitted with remote CCTV system so staff are alerted to the presence of intruders.

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measures in place to prevent containers falling over into other storage areas. **Preventing accidental emissions** 3.You must make sure you contain the following (where appropriate) and route to the effluent system (where necessary): • process waters • site drainage waters • emergency firefighting water • chemically contaminated waters • spillages of chemicals 4. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by taking into account the: • nature of the pollutants • effects of downstream waste water treatment • sensitivity of the receiving environment	**Management of incidental/accidental emissions:** The process does not give rise to emissions to air (except for potential emissions of dust or odour) which are controlled through the measures stipulated in the respective dust and odour management plans. With regard to potential incidental/accidental emissions to land/water: All hazardous storage areas will be provided with an impermeable surface (concrete) with sealed drainage. The impermeable concrete surface will meet the following intended design objectives: • Impermeable to incidental rainfall • Sufficient strength to accommodate plant and equipment • Designed with kerbing or edge bunds to retain all incidental rainfall; and • Designed with sealed joints where applicable and with sufficient falls so that collected surface water can only discharge to engineered sump(s). **Incident/accident registration and assessment system:** All near misses or incidents will be reported to the site manager, who will enter the information onto a central data base. All incidents or near misses will be investigated and reported on within monthly staff meetings. **Security measures** Site is surrounded by security fencing and 24/7 CCTV coverage.

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5. You can only discharge waste water from this buffer storage after you have taken appropriate measures, for example, to control, treat or reuse the water. 6. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products and waste materials, and to prevent their entry into water. 7. Your emergency firefighting water collection system must take account of additional firefighting water flows or firefighting foams. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. 8. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from: • overflows • vents • safety relief valves • bursting discs If this is not advisable on safety grounds, you must focus on reducing the probability of the emission. **Security measures**	**Fire Prevention** Waste materials accepted are considered to be of a very low combustible nature.

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9. You must have security measures (and staff) in place to prevent:

- entry by intruders
- damage to equipment
- theft
- fly-tipping
- arson

10. Facilities must use an appropriate combination of the following measures:

- security guards
- total enclosure (usually with fences)
- controlled entry points
- adequate lighting
- warning signs
- 24-hour surveillance, such as CCTV

Fire prevention

11. There are 3 fire prevention objectives. You must:

- minimise the likelihood of a fire happening
- aim for a fire to be extinguished within 4 hours

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• minimise the spread of fire within the site and to neighbouring sites 12. You must have appropriate systems for fire prevention, detection and suppression or extinction. 13. You must have suitable procedures and provisions (such as fire resistant stores, automatic alarms and sprinklers) to store certain types of hazardous waste. 14. Your facility must have enough water supplies to extinguish fires. You must have an alternative type of fire protection system if you store or treat any water-reactive waste, for example dry powder extinguishers. 15. You must isolate drainage systems from flammable waste storage areas to prevent fire spreading along the drainage system by solvents or other flammable hydrocarbons. 16. You must regularly inspect and clean your site to prevent the build-up of loose combustible material (including waste and dust), particularly around treatment plant, equipment and other potential sources of ignition. 17. You should share and communicate accident management and fire prevention plans with your local fire and rescue service.	

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Other accident prevention measures 18. You must assess areas of the site where explosive atmospheres could occur and, where appropriate, classify them into hazardous zones in accordance with the Dangerous Substances and Explosive Atmospheres Regulations. Plant and equipment used in these zones must be ATEX compliant. 19. You must maintain plant control in an emergency – use one or a combination of the following measures: • alarms • process trips and interlocks • automatic systems based on microprocessor control and valve control • tank level readings such as ultrasonic gauges, high level warnings, process interlocks and process parameters 20. You must: • make sure all the measurement and control devices you would need in an emergency are easy to access and will operate in an emergency	

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• maintain the plant so it is in a good state through a preventive maintenance programme and a control and testing programme • use techniques such as suitable barriers to prevent moving vehicles damaging equipment • have procedures in place to avoid incidents due to poor communication between operating staff during shift changes and after maintenance or other engineering work **Record keeping and procedures** 21. You must: • keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections • investigate accidents, incidents, near misses and abnormal events and record the steps you take to stop them reoccurring • maintain an inventory of substances, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances can damage the environment if they escape	

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• have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with	
Contingency Plan and Procedures:	Contingency Planning (to cover procedures in the event of a breakdown or abnormal operation) is included in the Management System.
Plant Decommissioning: You must consider how you will decommission the plant at the design stage, and plan how you will minimise risks during decommissioning. 2. For existing plants where potential risks are identified, you must have a programme of design improvements. These design improvements need to make sure you: Avoid using underground tanks and pipework – if it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme drain and clean out vessels and pipework before dismantling use insulation which you can dismantle easily without dust or hazard use recyclable materials, taking into account operational or other environmental objectives 3. You must have and maintain a decommissioning plan to demonstrate that:	This facility has been operational since 2015, operating under an environmental permit. The proposed changes which will bring it into the Installation threshold do not impact on the pre-existing design of the plant.

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plant will be decommissioned without causing pollution
the site will be returned to a satisfactory condition
4. Your decommissioning plan should include details on:

- whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents
- site plans showing the location of all underground pipes and vessels
- the method and resources needed to clear any on-site lagoons
- the method for closing any on-site landfills
- how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners
- methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your site
- any soil testing needed to check for pollution caused by site activities, and information on any remediation needed to return the site to a satisfactory state when you stop activities, as defined by the initial site condition report
- the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the plant)

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• the clearing of deposited residues, waste and any contamination resulting from the waste treatment activities 5. You should make sure that equipment taken out of use is decontaminated and removed from the site.	

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