



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

**ENVIRONMENTAL PERMITTING TECHNICAL
REQUIREMENTS DOCUMENT**

CENIN

**The Research Centre
Parc Stormy
Stormy Down
Bridgend
CF33 4RS**

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TABLE OF CONTENTS

1.	INTRODUCTION	5
1.1.	Overview	5
1.2.	Installation Location	5
1.3.	The Applicant	5
1.4.	Pre-Application Advice	6
2.	INSTALLATION ACTIVITIES	7
2.1.	Existing Activities	7
2.2.	Proposed Activities	7
2.3.	Directly Associated Activities	9
3.	MANAGEMENT TECHNIQUES	10
3.1.	Technical Competence	10
3.2.	Management System Overview	10
3.3.	EMS Amendments Taking Account of the Variation Proposals	11
4.	OPERATING TECHNIQUES	12
4.1.	Technical Standards	12
4.2.	Current Activities	12
4.3.	Proposed Activities: Overview	13
4.4.	Proposed Activities: Additional Waste Codes	14
4.5.	Proposed New Activity	19
4.6.	Extension to Permit Boundary	19
4.7.	Waste Pre-Acceptance Arrangements	20
4.8.	Waste Acceptance Arrangements	20
4.9.	Quarantine Area	20
4.10.	Waste Tracking and Recording	20
4.11.	Waste Handling and Storage	20
4.12.	Site Security and Traffic Management	22
4.13.	Contingency Plans	22
4.14.	Installation Decommissioning	22
5.	RAW MATERIALS	24
5.1.	Raw Materials	24

TABLE OF CONTENTS (Cont.)

6.	EMISSIONS	25
6.1.	Point Source Emissions to Air	25
6.2.	Point Source Emissions to Surface Water and Sewer	25
6.3.	Point Source Emissions to Land and Groundwater	25
6.4.	Fugitive Emissions	25
	Fugitive Emissions to Air – Dust and Particulates	26
	Fugitive Emissions - Noise	27
6.5.	Fugitive Emissions to Surface Water and Sewer	27
6.6.	Fugitive Emissions to Groundwater or Land	28
7.	GENERAL REQUIREMENTS	29
7.1.	Emissions Management	29
7.2.	Odour Management	29
7.3.	Noise and Vibration Management	29
7.4.	Fire Prevention Plan	29
7.5.	Pest Management Plan	29
8.	MONITORING	30
8.1.	Monitoring of Emissions to Air	30
8.2.	Monitoring of Soil and Groundwater	30
8.3.	Monitoring of Emissions to Surface Water and Sewer	30
9.	RESOURCE EFFICIENCY AND CLIMATE CHANGE	31
9.1.	Basic Measures for Improving Energy Efficiency	31
9.2.	Breakdown of any changes to the energy your activities Use and Create	31
9.3.	Climate Change Levy Agreement	32
9.4.	Efficient Use of Raw and Other Materials	32
9.5.	Waste/Residue Minimisation	33
10.	COMPLIANCE WITH BAT CONCLUSIONS	34
10.1.	Appropriate BAT Conclusions –	34

LIST OF TABLES

Table 1: Current Permitted Activities	7
Table 2: Proposed Permitted Activities	8
Table 3: Waste Codes to be Accepted	15
Table 4: BAT for Waste Treatment	35
Table 5: S5.06 , Section 2.1.3: Indicative BAT for Waste Storage	39

LIST OF FIGURES

Figure 1: Facility Energy Use Figures	32
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APPENDICES

APPENDIX I	DRAWINGS
APPENDIX II	ISO 14001 AND CIWM CONTINUING COMPETENCE CERTIFICATE
APPENDIX III	BAT PERMITTING DECISION DOCUMENT

ACRONYMS/TERMS USED IN THE TEXT

AD	Anaerobic Digestion
ASCR	Application Site Condition Report
BAT	Best Available Techniques
BRef	Best Available Techniques Reference Document
CCTV	Closed Circuit Television
CENIN	Cenin Limited
DAA	Directly Associated Activities
ECL	Environmental Compliance Limited
ELV	Emission Limit Value
EMS	Environmental Management System
EP Regulations	Environmental Permitting (England and Wales) Regulations 2016 as amended
EP	Environmental Permit EPR/SP3936TL
EPTR	Environmental Permitting Technical Requirements
ERA	Environmental Risk Assessment
H&S	Health and Safety
FPP	Fire Prevention Plan
NTS	Non Technical Summary
NGR	National Grid Reference
NRW	Natural Resources Wales
SCR	Site Condition Report
TPA	Tonnes per Annum
TPD	Tonnes per Day
The Installation	Cenin Cement Production Installation
The Site	The Research Centre, Parc Stormy, Stormy Down, Bridgend, CF33 4RS

1. INTRODUCTION

1.1. Overview

- 1.1.1. Environmental Compliance Limited (“ECL”) has been commissioned by Cenin Limited (“Cenin”) to prepare an Environmental Permitting Technical Requirements (“EPTR”) document to form part of the Environmental Permit variation application for Permit reference EPR/SP3936TL (“EP”). This is in relation to their cement, flyash and mineral products site, hereafter referred to as “the Installation”, located at The Research Centre, Parc Stormy, Stormy Down, Bridgend, CF33 4RS (“the Site”).
- 1.1.2. The activities currently undertaken at the Installation comprise two listed activities that fall under Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2016 as amended (“EP Regulations”) respectively.
- 1.1.3. The Installation operates under an ISO 14001 Environmental Management System (“EMS”), the overall responsibility for which lies with Cenin’s senior management team.
- 1.1.4. This permit variation application is to allow the following proposed changes:
- addition of R codes to the description of activities;
 - addition of a S5.4 Part A(1)(b) activity to include additional waste treatment operations (pre-processing of glass);
 - addition of a number of waste codes, both hazardous and non-hazardous, to be accepted;
 - removal of emission point A2 following removal of the diesel generator to which it served; and
 - additional storage and handling method (bulk bags).
- 1.1.5. In addition to the above changes, the proposed variation will include the extension of the permit boundary to incorporate an additional building for storage of bagged, non-combustible waste and of the products. The Site Condition Report (“SCR”) has been updated to include the area within the proposed extended boundary (“the extension area”) and is provided with this application.
- 1.1.6. There are no changes proposed to the quantity of waste to be received.

1.2. Installation Location

- 1.2.1. The Installation covers an area of approximately 1.33 hectares.
- 1.2.2. The Site Location Plan (CENI.01.01-01) details the Environmental Permit Boundary (outlined in green) which is provided in Appendix I. The approximate site centre is located at national grid reference SS 84118 80084.

1.3. The Applicant

- 1.3.1. The applicant is Cenin Limited, company number 05626851.

1.4. Pre-Application Advice

- 1.4.1. A meeting was held with Lewis Evans of NRW on the 20th May 2026 to discuss the pre application advice request. NRW subsequently confirmed that, in keeping with the existing permit, similar wastes can be stored together as long as they do not react together or pose a fire risk.

2. INSTALLATION ACTIVITIES

2.1. Existing Activities

- 2.1.1. The activities currently undertaken, under Permit Reference EPR/ EPR/SP3936TL are detailed in Table 1.

Table 1: Current Permitted Activities

Activity Ref	Activity	Description of Activities	Limits of Activities
A1	S5.3 A(1) (a) (vi) Disposal or recovery of hazardous waste in a facility with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	R5: Recycling/ reclamation of inorganic materials other than metal compounds. R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced Producing cement using waste fly ash powders and air pollution control residues from power generation plants burning paper sludge, wood, plastics and other municipal wastes.	From receipt of waste fly ash and other raw materials to storage of post process cement. Waste types are specified in Table S2.1 (of EPR/SP3936TL)
A2	S5.6 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.	R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced	Waste types are specified in Table S2.1 (of EPR/SP3936TL)

2.2. Proposed Activities

- 2.2.1. The activities proposed are detailed in Table 2. Changes to existing activities are shown in blue.

Table 2: Proposed Permitted Activities

Activity Ref	Activity	Description of Activities	Limits of Activities
A1	S5.3 A(1) (a) (vi) Disposal or recovery of hazardous waste in a facility with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	R4: Recycling/ reclamation of metals and metal compounds R5: Recycling/ reclamation of inorganic materials other than metal compounds. R7: Recovery of components used for pollution abatement R11: Use of wastes obtained from any of the operations numbered R1 to R10 R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced Producing cement using waste fly ash powders and air pollution control residues from power generation plants burning paper sludge, wood, plastics and other municipal wastes.	From receipt of waste fly ash and other raw materials to storage of post process cement. Waste types are specified in Table S2.1 (of EPR/SP3936TL)
A2	S5.6 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.	R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced	Waste types are specified in Table S2.1 (of EPR/SP3936TL)
A3	S5.4 Part A(1)(b) (iii) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day	R4: Recycling/reclamation of metals and metal compounds R5: Recycling/ reclamation of inorganic materials other than metal compounds. R7: Recovery of components used for pollution abatement R11: Use of wastes obtained from any of the operations numbered R1 to R10	From receipt of waste and other raw materials to storage of post process cement.

Table 2: Proposed Permitted Activities (Cont.)

Activity Ref	Activity	Description of Activities	Limits of Activities
As above	As above	R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced) Producing cement using non-hazardous waste.	As above

2.2.2. Detailed descriptions of the changes proposed are provided in Section 4 of this EPTR document.

2.2.3. The operating techniques for the existing activities, as detailed in Table S1.2 of the EP, will remain unchanged. It is proposed that the documents included in this variation application will comprise additional Operating Techniques for the pre-processing of glass and storage and handling of bagged waste, and will be listed in in any varied permit which NRW is minded to issue.

2.3. Directly Associated Activities

2.3.1. There are no changes to the Directly Associated Activities ("DAA's") proposed under this variation.

3. MANAGEMENT TECHNIQUES

3.1. Technical Competence

- 3.1.1. All employees will be appropriately trained to ensure they can undertake their roles and responsibilities in a safe manner. All employees will undertake an induction programme, as well as job role specific training. All certificates are held on record for the individual.
- 3.1.2. A Technically Competent Manager (“TCM”) will be on site during operational hours. The TCM holds CIWM WAMITAB award TCM- Treatment Hazardous Waste. A copy of the Continuing Competence Certificate is provided in Appendix II.
- 3.1.3. The design and maintenance of infrastructure, plant and equipment is undertaken by competent people in-house, or where required specialist contractors are employed.

3.2. Management System Overview

- 3.2.1. Cenin operate an EMS which is externally certified to ISO 14001. The ISO 14001 certificate is provided in Appendix II of this document.
- 3.2.2. The overall responsibility for ensuring that the requirements of the Environmental Permit are met and achieving continual improvements in environmental performance lies with the Managing Director of Cenin. Managers and Supervisors have the prime responsibility for ensuring the management processes are implemented. The Health and Safety (“H&S”) Manager has overall responsibility for environmental matters at the Installation.
- 3.2.3. The EMS:
- ensures compliance with the Environmental Permit and other licences and consents held by Cenin;
 - identifies, assesses and minimises the risks of pollution arising from the Installation’s activities;
 - comprises a range of written procedures that cover all aspects of the Installation’s activities;
 - identifies, sets, monitors, and reviews environmental objectives and key performance indicators; and
 - includes a requirement to report annually on environmental performance, objectives, targets and future planned improvements.
- 3.2.4. A Planned Preventative Maintenance Regime (“PPMR”) is included in the EMS.

3.3. EMS Amendments Taking Account of the Variation Proposals

3.3.1. The EMS will be reviewed to take account of the permit variation to ensure it remains appropriate and effective. The principal anticipated changes are described below:

- update to the management system documents to take account of any additional Environmental Permit conditions;
- the Environmental Risk Assessment for the proposed additional activities ("ERA") will be used to inform the new risks and opportunities at the Installation and the site-specific operational risk assessments forming part of the EMS will be reviewed and any additional control required will be documented;
- the environmental objectives and targets will take account of the proposed changes to ensure they are appropriate;
- operational procedures will be reviewed to ensure they are aligned with the proposed changes to be introduced as part of the variation;
- the PPMR will be updated to include the inspection and maintenance of all process equipment, abatement equipment, storage containers, buildings, surfacing and drainage systems within the extended permit boundary;
- employees will be trained in the updated EMS and associated operational procedures; and
- all changes to the EMS will be documented and communicated to all employees.

4. OPERATING TECHNIQUES

4.1. Technical Standards

4.1.1. The following NRW online guidance has been considered as part of this application:

- BAT Conclusions for Waste Treatment¹ ;
- Sector Guidance Note S5.06 Recovery and Disposal of Hazardous and Non hazardous Waste²
- NRW's 'How to comply with your environmental permit';
- NRW's Fire Prevention and Mitigation Plans ; and
- NRW's H5 Site Condition Report guidance.

4.2. Current Activities

4.2.1. The existing Permit boundary (shown in solid green) and infrastructure Layout are shown on the Site Layout Plan, drawing reference CENI.01.01-02 provided in Appendix I. The drainage arrangements are shown on drawing CENI.01.01-03 also in Appendix I.

4.2.2. Cenin produce cement, flyashes and mineral products using waste fly ash powder from power generation plants The Production process is an alternative to conventional cement production.

4.2.3. Waste fly ash and other raw materials are milled separately to the desired particle size and blown into holding silos before being weighed. The fly ash is then blended with aggregate, blast furnace slag, minerals and cement. This causes a chemical reaction that converts lime (CaO) into limestone and dolomite. Inside the blending station the material composition is constantly monitored and adjusted until the required specification is reached for its end use as a cement or cement replacement. On completion the composition meets the specification of cement in accordance with BS:EN197 Part 1 (Composition, specifications and conformity criteria for common cement.)

4.2.4. Processing of waste is undertaken within fully enclosed mills, mixers, screws, silos and conveyors. The processing equipment is located within a large, fully enclosed building designed to prevent water ingress and fugitive dust release. Air from the milling operation is cleaned using a bag filtration system prior to discharged through a stack located on the roof of the building. Cenin continuously monitor particulate emissions released via the stack.

¹

https://assets.publishing.service.gov.uk/media/66018450a6c0f7bb15ef91e2/CD7.4.N_GR13___Best_Available_Techniques___BAT___Reference_Document_for_Waste_Treatment.pdf

² <https://www.gov.uk/government/publications/sector-guidance-note-s506-recovery-and-disposal-of-hazardous-and-non-hazardous-waste>

4.2.5. All powder type wastes are delivered using a sealed process. The material is pneumatically transferred from the powder tanker into delivery holding silos through flexible hoses and sealed couplings using the tankers compressor. Reverse air jet filter systems are fitted to the silos to control emissions to the atmosphere. A spare silo is kept readily available in the event of a silo problem during delivery and the delivery can be transferred to this silo in the event of an incident. Over-pressurization and over-fill systems are in place on the silos.

4.2.6. The product is kept in a dry, powder state prior to being collected by purchasers.

4.3. Proposed Activities: Overview

4.3.1. There will be no change in the total throughput of the Installation as a result of the proposed variation, which will remain at a maximum of 75,000 tonnes per annum ("tpa"). The maximum daily throughput will be 200 tonnes per day (tpd) of non-hazardous waste and 110 tpd of hazardous waste.

4.3.2. No more than 4,400 tonnes of waste in total will be stored at the Installation at any one time. The percentage of hazardous and non-hazardous waste stored at any one time will be variable and dependant on the availability of waste and the products being made.

4.3.3. Although additional waste types will be added to the EP under this variation, this will not result in an increase in the throughput of the Installation, but will allow more variability in the waste which can be used to produce the final product

4.3.4. The new waste codes proposed to be accepted (as detailed in Table 3) will be stored in the existing silos and bays, shown on drawing ref CENI.01.01-02, and will continue to benefit from the permitted control measures in place. In addition, there will be 3 new bays installed for non-powdery waste (which could be combustible) located externally to the process building.

4.3.5. There are no changes proposed to any of the existing processes undertaken at the Installation. The new waste types proposed to be accepted, as detailed in Table 3, will be handled following the same procedures and will undergo the same processing as the existing waste types. All existing environmental control measures specified within the EP will remain in place and will be applicable to the new waste types received.

4.3.6. Under the variation application, it is proposed that non-combustible waste may be accepted in sealed 2 tonne bulk bags which would be stored in the new storage building ("the storage building") to be located within the proposed extension area. The list of waste "LoW") codes that may be received in bulk bags are shown in Table 3. It should be noted that these waste codes will usually be stored in the silos, but Cenin would like the option of bulk bag storage to allow more flexibility for their suppliers. The locations of the proposed additional storage areas and varied permit boundary are shown on Drawing ref CENI.01.01.

4.3.7. There will be an additional waste handling method introduced for those wastes stored in bulk bags within the storage building and for wastes delivered to the Installation in bulk bags. This will involve the use of a debagging machine connected to designated silos with local dust extraction in place to allow the bags to be emptied whilst minimising emissions of dust.

- 4.3.8. In addition to the ongoing existing activities, there will be a new Section 5.4 Activity proposed which will involve treatment of non-hazardous glass waste by crushing in an enclosed hammer mill prior to being blown into a silo from where it will be fed into the existing process.
- 4.3.9. There are no additional point source emissions proposed under the permit variation.
- 4.3.10. There will be no change in the operating hours as a result of this variation.

4.4. Proposed Activities: Additional Waste Codes

- 4.4.1. It is proposed that the additional waste codes detailed in Table 3 will be accepted under the varied permit.
- 4.4.2. The relevant listed activity (as detailed in Table 2) and the storage method for each of the proposed additional waste codes are also shown in Table 3.

Table 3: Waste Codes to be Accepted

CODE AND DESCRIPTION	STORAGE LOCATION	ACTIVITY
WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS		
01 03 wastes from physical and chemical processing of metalliferous minerals		
01 03 08 dusty and powdery wastes other than those mentioned in 01 03 07	Sealed silo's (and bulk bags)	A3
01 03 09 red mud from alumina production other than the wastes mentioned in 01 03 10	Storage bays	A3
01 04 wastes from physical and chemical processing of non-metalliferous minerals		
01 04 07* wastes containing hazardous substances from physical and chemical processing of non-metalliferous minerals	Sealed silo's (and bulk bags)	A1, A2
01 04 09 waste sand and clays	Storage bays	A3
01 04 10 dusty and powdery wastes other than those mentioned in 01 04 07	Sealed silo's (and bulk bags)	A3
02 WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING		
02 04 wastes from sugar processing		
02 04 02 off-specification calcium carbonate	Sealed silo's (and bulk bags)	A3
03 WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD		
03 03 Wastes from pulp, paper and cardboard production and processing		
03 03 07 mechanically separated rejects from pulping of waste paper and cardboard	External Storage bays	A3
03 03 09 lime mud waste	Storage bays	A3
03 03 10 fibre rejects, fibre-, filler- and coating-sludges from mechanical separation	External Storage bays	A3
03 03 11 Sludges from on-site effluent treatment other than those mentioned in 03 03 10	External Storage bays	A3
04 WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES		
04 01 Wastes from the leather and fur industries		
04 01 02 liming waste	Storage bays	A3
10 WASTES FROM THERMAL PROCESSES		
10 01 wastes from power stations and other combustion plants (except 19)		
10 01 04* oil fly ash and boiler dust	Sealed silo's (and bulk bags)	A1, A2
10 01 14* bottom ash, slag and boiler dust from co-incineration containing hazardous substances	Sealed silo's (and bulk bags)	A1, A2
10 01 16* fly ash from co-incineration containing hazardous substances	Sealed silo's (and bulk bags)	A1, A2

Table 3: Waste Codes to be Accepted (Cont.)

CODE AND DESCRIPTION	STORAGE LOCATION	ACTIVITY
10 03 wastes from aluminium thermal metallurgy		
10 03 05 waste alumina	External Storage bays	A3
10 03 20 Flue-gas dust other than those mentioned in 10 03 19	Sealed silo's	A3
10 03 30 wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29	External Storage bays	A3
10 05 wastes from zinc thermal metallurgy		
10 05 03* flue-gas dust	Sealed silo's	A1, A2
10 05 04 other particulates and dust	Sealed silo's	A3
10 07 wastes from silver, gold and platinum thermal metallurgy		
10 07 04 other particulates and dust	Sealed silo's	A3
10 08 wastes from other non-ferrous thermal metallurgy		
10 08 04 particulates and dust	Sealed silo's	A3
10 09 wastes from casting of ferrous pieces		
10 09 03 furnace slag	External Storage bays	A3
10 09 06 casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05	External Storage bays	A3
10 09 08* flue-gas dust containing hazardous substances	Sealed silo's	A1, A2
10 09 12 other particulates other than those mentioned in 10 09 11	Sealed silo's	A3
10 10 wastes from casting of non-ferrous pieces		
10 10 09* flue-gas dust containing hazardous substances	Sealed silo's	A1, A2
10 10 11* other particulates containing hazardous substances	Sealed silo's	A1, A2
10 10 12 other particulates other than those mentioned in 10 10 11	Sealed silo's	A3
10 11 wastes from manufacture of glass and glass products		
10 11 12 waste glass other than those mentioned in 10 11 11	Storage bays	A3
10 11 15* solid wastes from flue-gas treatment containing hazardous substances	Storage bays	A1, A2
10 12 wastes from manufacture of ceramic goods, bricks, tiles and construction products		
10 12 03 particulates and dust	Sealed silo's (and bulk bags)	A3

Table 3: Waste Codes to be Accepted (Cont.)

CODE AND DESCRIPTION	STORAGE LOCATION	ACTIVITY
10 13 wastes from manufacture of cement, lime and plaster and articles and products made from them		
10 13 04 wastes from calcination and hydration of lime	Sealed silo's (and bulk bags)	A3
10 13 06 particulates and dust (except 10 13 12 and 10 13 13)	Sealed silo's (and bulk bags)	A3
10 13 11 wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10	Sealed silo's (and bulk bags)	A3
10 13 12* solid wastes from gas treatment containing hazardous substances	Storage bays	A1, A2
WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDROMETALLURGY		
11 02 Wastes from non-ferrous hydrometallurgical processes		
11 02 03 Wastes from the production of anodes for aqueous electrolytical processes	Storage bays	A3
12 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS		
12 01 wastes from shaping and physical and mechanical surface treatment of metals and plastics		
12 01 04 non-ferrous metal dust and particles	External Storage bays	A3
16 WASTES NOT OTHERWISE SPECIFIED IN THE LIST		
16 01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)		
16 01 20 glass	Internal Storage bays	A3
17 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)		
17 02 wood, glass and plastic		
17 02 02 glass	Internal Storage bays	A3
17 08 gypsum-based construction material		
17 08 01* gypsum-based construction materials contaminated with hazardous substances	External Storage bays	A1, A2
17 08 02* gypsum-based construction materials other than those mentioned in 17 08 01	External Storage bays	A3

Table 3: Waste Codes to be Accepted (Cont.)

CODE AND DESCRIPTION	STORAGE LOCATION	ACTIVITY
19 WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION		
19 01 wastes from incineration or pyrolysis of waste		
19 01 02 ferrous materials removed from bottom ash	Storage bays	A3
19 01 11* bottom ash and slag containing hazardous substances	Storage bays	A1, A2
19 01 12 bottom ash and slag other than those mentioned in 19 01 11	Storage bays	A3
19 02 wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)		
19 02 05* sludges from physico/chemical treatment containing hazardous substances	Storage bays	A1, A2
19 04 vitrified waste and wastes from vitrification		
19 04 02 fly ash and other flue-gas treatment wastes	Sealed silo's (and bulk bags)	A3
19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified		
19 12 02 ferrous metal	External Storage bays	A3
19 12 05 glass	Internal Storage bays	A3
19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	Storage Bays	A3
20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS		
20 01 separately collected fractions (except 15 01)		
20 01 02 glass	Internal Storage bays	A3
20 01 40 metals	External Storage bays	A3

4.5. Proposed New Activity

- 4.5.1. In addition to the ongoing existing activities detailed in Table 1, under the proposed permit variation, there will be a new Section 5.4 Part A(1)(b) activity which will comprise treatment of non-hazardous glass waste by crushing in a hammer mill prior to being fed into the existing process. The new activity will be applicable to the following waste codes which are described in full in Table 3:
- 16 01 20;
 - 17 02 02;
 - 19 12 05; and
 - 20 01 02.
- 4.5.2. The glass waste will be delivered to the Installation in tipper trucks or intermediate bulk containers (“IBCs”) and will be unloaded directly into one of the bays located within the enclosed process building, on completion of waste acceptance checks.
- 4.5.3. The glass waste will be fed, using a telehandler, into the hammer mill within the process building. The hammer mill will be fully enclosed and fitted with a self-contained air suction filtration system which will blow the processed glass into a sealed silo with its own reverse jet air filtration system. The processed glass will then be fed into the existing process which benefits from the permitted control measures.
- 4.5.4. Consequently, there will be no point source emissions from the proposed new activity. Fugitive emissions will be controlled via the sealed filtration systems on the hammer mill and silo.
- 4.5.5. The process building is insulated and cladded which will minimise noise from the glass crushing activity.
- 4.5.6. Any materials found within the glass, such as bottle tops and paper, will be sent off site to be recycled (where possible).

4.6. Extension to Permit Boundary

- 4.6.1. The permit boundary will be extended to include an additional building for storage of bagged, non-combustible waste and products. There will also be a diesel storage fuel bowser located within the storage building. The proposed extension to the permit boundary and the storage building is shown as the green dotted line on drawing ref CENI.01.01-02 in Appendix I.
- 4.6.2. The storage building is fully enclosed, lockable and benefits from impermeable surfacing which is isolated from the drainage system.
- 4.6.3. The external area within the proposed extension area is surfaced with impermeable surfacing and isolated from the drainage system. There is security fencing around the boundary of the extension area and signage will be put in place.

4.6.4. The diesel storage fuel bowser will be self-bunded, the volume of the bund comprising 110% of the total tank volume.

4.6.5. More details on the extension area and storage building are provided in the Site Condition Report ("SCR") provided with this application.

4.7. Waste Pre-Acceptance Arrangements

4.7.1. There are no changes proposed to the existing waste pre-acceptance procedures.

4.8. Waste Acceptance Arrangements

4.8.1. There are no changes proposed to the existing waste acceptance arrangements.

4.9. Quarantine Area

4.9.1. There will be no change to the size, location or engineering of the quarantine area, the location of which is shown on Drawing ref CENI.01.01-02.

4.10. Waste Tracking and Recording

4.10.1. There are no changes proposed to the waste tracking and recording arrangements.

4.11. Waste Handling and Storage

4.11.1. The storage arrangements for each proposed new waste type, (by LoW code), to be accepted at the Installation are detailed in Table 3. All existing and proposed waste storage areas are shown on drawing reference CENI.01.01-02.

4.11.2. For those LoW codes, both hazardous and non hazardous, which will be stored in silos, there will be no change to the existing permitted handling and storage procedures which is summarised below:

- waste materials are delivered to the site in powder road tankers;
- waste is pneumatically transferred into the holding silos through flexible hoses and sealed couplings using the tankers compressor. Audible and visual high level alarms and load cells are fitted to the silos to monitor and control filling;
- reverse air jet filter systems are fitted to the silos to control emissions to the atmosphere;
- a spare silo is kept readily available in the event of a silo problem during delivery and the delivery can be transferred to this silo in the event of an incident;
- enclosed screw conveyors transfer the waste from the silo to the enclosed feed bin of the mill, from here the material is blown via compressed air into the sealed mill for milling.

- 4.11.3. There will be 3 new waste storage bays located externally to the process building, at the location shown on drawing ref CENI.01.01-02. The waste storage bays are located on impermeable surfacing with sealed drainage. The waste types (by LoW code) that will be stored in these external bays are detailed in Table 3. The waste storage bays are used only for non-dusty waste types with limited leaching potential. The rigorous waste acceptance procedures in place ensure that no dusty waste will be deposited in the external bays. Waste is moved from the bays into the mill feed bin using a front loaded excavator. The measures in place to control fugitive emissions to air from the handling and storage of the waste in bays are detailed in Section 6.
- 4.11.4. The glass waste, which will be processed in the hammer mill, will be stored within the process building, within one of the internal bays. The glass will be tipped directly into the bay minimising any noise emissions. The glass waste will be fed into the hammer mill using a telehandler. All storage and processing of the glass waste will be enclosed within the process building.
- 4.11.5. The storage building will be used for the storage of non-combustible wastes under the codes detailed in Table 3. These waste codes will generally be delivered by powder tankers directly into the silos, however, on occasion these waste types may be delivered in sealed, 2 tonne bulk bags. The bulk bags are made of a semi-waterproof material with a tight weave thus preventing any dust from escaping from the bags. The bags will be stored within the enclosed building, which has an impermeable surface and is isolated from the drainage system. The bulk bags will be inspected regularly to check for any leaks or degradation of the packaging.
- 4.11.6. Within the storage building, the bulk bags will be stored in a manner which ensure that there is always vehicular and pedestrian access to the whole of the storage area and such that the bags can be accessed and moved without the removal of others.
- 4.11.7. There will be an additional waste handling method introduced for those wastes stored in bulk bags within the storage building and for waste received under LoW code 01 04 10 which will be delivered to the Installation in 2 tonne bulk bags. This will involve the use of a debagging machine connected to designated silos with local dust extraction in place to allow the bags to be emptied whilst minimising emissions of dust. The existing reverse air jet filter system on the silos will be used to control emissions to atmosphere during the debagging process. The waste will be moved from the storage building to the debagging machine in the sealed bags using a telehandler.
- 4.11.8. Hazardous and non-hazardous waste will be stored separately, in designated, clearly labelled silos and bulk bays. To ensure that there are no reactions between incompatible materials, waste received under different waste codes will not be mixed within the silos or storage bays.
- 4.11.9. Processing at the Installation is undertaken using a batch system, dependant on the waste materials available at that time and the product demand. Therefore, the waste type stored in each individual silo and storage bay is subject to change. Cenin have in place a silo plan, which is a dynamic “live” document which details which waste is being stored in which silo and bay at any given time. The signage on the individual silos and bays is mobile and updated in accordance with the silo plan.

- 4.11.10. All wastes will be treated on a first in first out basis. Generally, all wastes will be treated within a maximum of 6 months of receipt (unless stated otherwise in the Installation's FPP).
- 4.11.11. All waste storage areas and stored equipment will be subject to frequent inspection to make sure that any leaks or spillage of dust or loose material are identified and managed appropriately, and fire breaks are maintained. A written record of such inspections is maintained in accordance with the EMS.
- 4.11.12. All waste storage and treatment areas, equipment and containers are regularly inspected and cleaned if required. Any residues collected during cleaning are disposed of as required.
- 4.11.13. Any activities that may represent a clear fire risk are not undertaken within any waste storage area. Examples include:
- smoking;
 - parking of normal road vehicles except while unloading or loading; and/or
 - recharging batteries.
- 4.11.14. All staff will be trained in the correct handling of waste, to minimise any damage to the integrity of containers or individual items.

4.12. Site Security and Traffic Management

- 4.12.1. There will be no changes to the site security or traffic management measures for the area within the existing permit boundary as part of this proposed variation.
- 4.12.2. The proposed extension area has perimeter fencing to a height of 2 metres in place to prevent unauthorised or accidental access to the Installation.
- 4.12.3. The Installation is covered by 24 hour CCTV with external monitoring both during working hours and out of hours.

4.13. Contingency Plans

- 4.13.1. In the unlikely event that site operations are disrupted, contingency arrangements are in place. No further waste will be accepted at the Facility unless there is sufficient capacity or there is a clearly defined method of disposal/recovery.
- 4.13.2. The Installation will continue to comply with all permit conditions and operating procedures during maintenance and/or shutdowns.

4.14. Installation Decommissioning

- 4.14.1. The Installation has been designed to ensure that it can be decommissioned safely in a manner which will avoid any pollution risk and return the site to a satisfactory state. In this instance, this means returning the site to the environmental condition that prevailed prior to Environmental Permit issue as established in the Site Condition Report

(CENI.01.01/SCR).

4.14.2. A decommissioning plan will be developed to demonstrate that the plant can be safely decommissioned without causing pollution. In summary, the Installation will be decommissioned as follows:

- cessation of waste acceptance;
- removal of all waste from site;
- maintenance of all storage areas;
- review of all potentially polluting materials stored on site;
- knowledge transfer;
- clean down and decommissioning of all plant and equipment;
- survey and removal of storage and process areas; and
- investigate ground and groundwater conditions and return to a satisfactory state, if required.

5. RAW MATERIALS

5.1. Raw Materials

- 5.1.1. The process undertaken at the Installation focuses on the use of waste in place of raw materials. As such the main raw material used is diesel for fuelling site plant and equipment. The diesel will be stored in a 10,000l self-bunded fuel bowser within the storage building.
- 5.1.2. On occasion, clean aggregate is used as part of the end product blend. The following quantities may be used:
- maximum of 200 tonnes stored on site at any time in storage bays;
 - 150 tonnes maximum amount used daily; and
 - 34, 500 tonnes maximum amount used annually.
- 5.1.3. The aggregate is used within the production process, as required, and is mixed into the product blend during the milling process. The amount of raw aggregate used is dependent on the individual product recipes and the properties of the waste types available at that time.

6. EMISSIONS

6.1. Point Source Emissions to Air

- 6.1.1. The diesel generator is no longer in place and therefore emission point A2: diesel generator exhaust no longer exists and should be removed from the permit.
- 6.1.2. There will be changes to the remaining point source emissions to air (A1) proposed as part of this variation application.
- 6.1.3. The reverse jet air filtration system on the new hammer mill does not have any associated emission points to air.

6.2. Point Source Emissions to Surface Water and Sewer

- 6.2.1. There are currently no point source emissions to surface water or sewer and no changes are proposed as part of this variation application. This includes from the proposed extension area.

6.3. Point Source Emissions to Land and Groundwater

- 6.3.1. There are currently no point source emissions to land or groundwater and no changes are proposed as part of this variation application.
- 6.3.2. The permit extension area, both the storage building and external area, are sealed with an impervious barrier to prevent a pollution pathway to land or groundwater.

6.4. Fugitive Emissions

- 6.4.1. Only fugitive emissions associated with the proposed new activity: use of a hammer mill to pre-treat glass prior to acceptance into the existing process, and the new waste storage and handling method for bagged waste are discussed in this section.
- 6.4.2. Control measures for fugitive emissions from the currently permitted activities are specified within the EP and compliance will be maintained. The storage, handling and processing of the additional hazardous and non-hazardous LoW codes (with the exception of 01 04 10) will be subject to these controls.

Fugitive Emissions to Air – Dust and Particulates

- 6.4.3. Wastes which will be received under LoW code 01 04 10 will be delivered in dry, sealed jumbo bags. The sealed jumbo bags will be transferred from the delivery vehicle to the debagging device which will empty the bag into the silo. The semi-sealed debagging device works on gravity. The bag is split at the bottom when fitted onto the bagging device and a mechanical screw then takes the raw material into the sealed silo. Any dust from the process is sucked away by a local fan on top of the bagging machine and blown into the silo for reuse. The existing reverse air jet filter system on the silo is used to further control emissions to atmosphere from filling of the silo.
- 6.4.4. From time to time, non-combustible, potentially dusty wastes may be delivered to the Installation in sealed, 2 tonne bulk bags. The bulk bags will be made of a fabric with a tight weave designed to store dusty materials to prevent any leakage through pores in the bag. The bulk bags will be stored in the enclosed storage building, providing further control of dust emissions. The bags will remain sealed when they are transferred to the silo using a telehandler preventing any emissions. The wastes will be debagged as described in paragraph 6.4.3.
- 6.4.5. Only non-dusty waste will be stored within the external bays. Robust waste pre acceptance and waste acceptance procedures are in place to ensure that the composition and physical properties of all incoming wastes are known in advance, and recorded in the silo plan, thus ensuring appropriate storage is available for all waste. Should any waste be received designated for the external bays, but which is found on acceptance not to be suitable, it will be moved to the quarantine area, until suitable storage arrangements, or removal from site can be arranged.
- 6.4.6. Although the unprocessed glass wastes are not considered to be dusty, the glass will be tipped directly into the enclosed processing building preventing any emissions of dust or particulates. The glass will then be into the hammer mill within the enclosed building.
- 6.4.7. The hammer mill will be fully enclosed and fitted with a self-contained air suction filtration system which will blow the processed glass into a sealed silo with its own reverse jet air filtration system. The processed glass will then be fed into the existing process via a sealed screw conveyor. Notwithstanding the above, the hammer mill is operated within the enclosed process building further controlling emissions.
- 6.4.8. The storage building and external areas of the extension area as well as the external bays will be subject to the same housekeeping and daily and weekly checks as in place for the existing permitted areas under the EMS designed to minimise dust build up.
- 6.4.9. The hammer mill, debagging machine and mobile plant will be added to the PPMR to ensure they are maintained in accordance with the manufacturers recommendations to ensure efficient operation thus minimising emissions.

Fugitive Emissions - Noise

- 6.4.10. The low density of the dusty and powdery waste accepted as LoW code 01 04 10 and potentially accepted in Jumbo bags, means that the debagging process into the silo will not be noisy. Notwithstanding this, the use of the debagging machine means that drop heights into the silo are reduced helping control noise emissions. The waste is transferred directly into the silo which will contain the noise and provide a shield to prevent noise travelling to sensitive receptors.
- 6.4.11. To prevent noise emissions from the receipt and pre-processing of glass waste, the waste will be delivered directly into the enclosed process building, which is fitted with cladding and insulation which provides a sound barrier. Within the process building, the glass will be treated in the hammer mill which is fully enclosed to contain sound.
- 6.4.12. The glass will be transferred to the existing processing area via sealed conveyor within the enclosed building to control noise emissions. Once within the main process, the glass waste will benefit from the existing control measures specified within the EP.
- 6.4.13. The hammer mill, debagging machine and mobile plant will be added to the PPMR to ensure that it is operating to optimum performance in order to reduce the impacts from noise or vibration.
- 6.4.14. Any significant increase in the noise levels will be reported to the management team and investigated. Any complaints will be recorded in the company's complaints log and be investigated accordingly.

6.5. Fugitive Emissions to Surface Water and Sewer

- 6.5.1. There will be no additional sources of fugitive emissions to surface water or sewer resultant from the proposed variation. The proposed activities are dry processes which do not use or produce any water or process effluent.
- 6.5.2. With the exception of the 3 external storage bays, all waste will be stored within enclosed buildings or in sealed silos. All processing is undertaken within an enclosed building. There is therefore no mechanism for waste to come into contact with rainwater to generate contaminated run off.
- 6.5.3. There is a drainage channel located around the external storage bays which collects any rainwater run off. The drainage channel runs into a sealed rainwater collection system. The water is removed from site via tanker to a suitable licenced facility.
- 6.5.4. The building and external areas within the proposed extension to the EP boundary benefit from impermeable surfacing and are isolated from the drainage system. No waste will be stored externally in the extension area. Any waste stored within the storage building will be on impermeable surfacing. Diesel will be stored within the storage building in a self-bunded fuel bowser with a bund volume of 110% of the tank volume. There will therefore be no significant risk of fugitive emissions to sewer or surface water from the proposed extension area.

6.6. Fugitive Emissions to Groundwater or Land

- 6.6.1. There will be no additional sources of fugitive emissions to groundwater or land introduced under the proposed variation. The existing control measures, required by the EP will remain in place.
- 6.6.2. The debagging of dusty waste, the storage and processing of glass waste and the storage of non-dusty waste in external bays will be undertaken in areas sealed with an impervious barrier to prevent a pollution pathway to groundwater or the land beneath the Installation

7. GENERAL REQUIREMENTS

7.1. Emissions Management

- 7.1.1. The ERA (CENI.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 variation application.

7.2. Odour Management

- 7.2.1. It is not considered that the additional activity proposed by this variation application will result in any odour nuisance at sensitive receptors.
- 7.2.2. Consequently, an Odour Management Plan is not considered to be required.

7.3. Noise and Vibration Management

- 7.3.1. It is not considered that the changes proposed as part of this variation will result in noise nuisance being experienced by sensitive receptors in the surrounding area.
- 7.3.2. The ERA has demonstrated that with strict adherence to the control measures set out in the ERA, risk of noise emissions beyond the Installation EP boundary is not considered to be significant. Consequently, a Noise Management Plan is not required as part of this application.

7.4. Fire Prevention Plan

- 7.4.1. As per the requirements of the EA's Fire Prevention Plan ("FPP") online guidance³, a FPP (Document reference CENI.01.01/FPP) has been prepared and is submitted with this application.

7.5. Pest Management Plan

- 7.5.1. It is not considered that the activities proposed will result in any risk of pest attraction to the Installation nor nuisance being experienced by sensitive receptors in the surrounding area. Consequently, a Pest Management Plan is not required.

³ EA 'Fire Prevention Plans: environmental permits', available online at <https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits>, accessed November 2025.

8. MONITORING

8.1. Monitoring of Emissions to Air

- 8.1.1. There are no changes to the point source emissions to air associated with this variation apart from the removal of A2 emission point. Therefore, no additional air emissions monitoring is proposed.

8.2. Monitoring of Soil and Groundwater

- 8.2.1. There are no point source emissions to soil or groundwater introduced by the proposed variation. Therefore, no monitoring of soil or groundwater is proposed

8.3. Monitoring of Emissions to Surface Water and Sewer

- 8.3.1. There are no point source emissions to surface water introduced by the proposed permit variation. Therefore, no monitoring of emissions to surface water or sewer is proposed.

9. RESOURCE EFFICIENCY AND CLIMATE CHANGE

9.1. Basic Measures for Improving Energy Efficiency

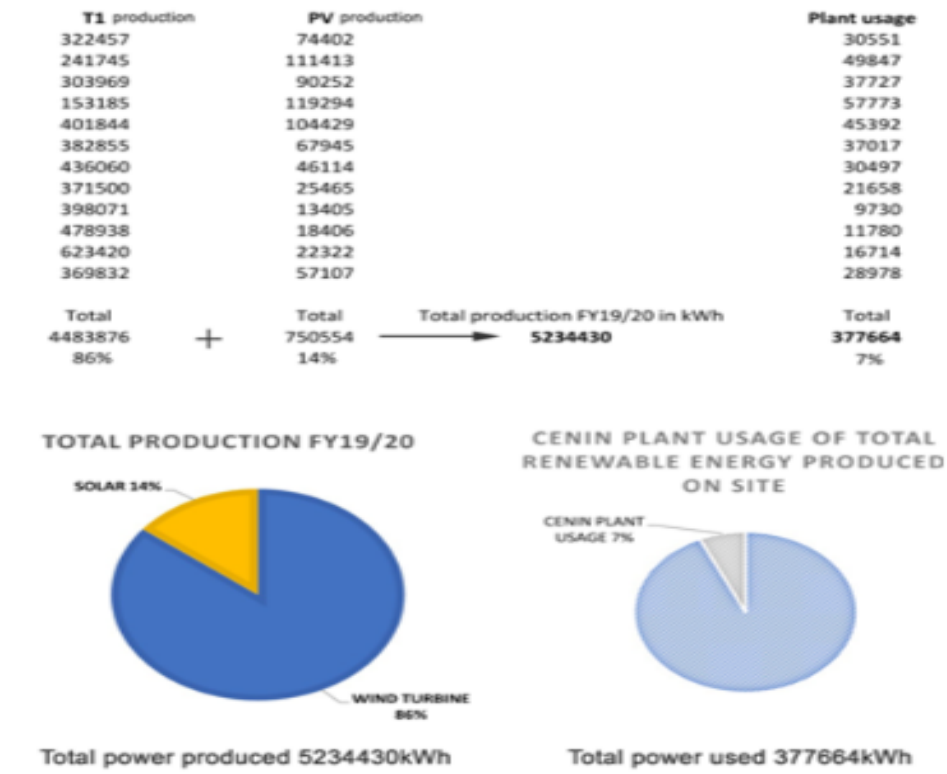
- 9.1.1. The Installation remains a front-runner in sustainable operations and is powered entirely by on-site renewable energy (a combination of wind, solar and gas generated by anaerobic digestion (“AD”), and supported by Tesla battery storage with a capacity of 600MW with zero reliance on the national grid. Energy use is carefully managed across all areas, with oversight from the Business Manager and ongoing staff engagement. Continuous improvements are tracked through a formal plan. The Installation benefits from recent upgrades including expanded solar capacity, light emitting diode (“LED”) lighting, and electric vehicle (“EV”) charging to further reduce energy consumption.
- 9.1.2. Offices and workshops share the same renewable electricity supply. Import and export data is recorded in the Environmental Aspects Register, within the EMS. Operational adjustments have also been made to improve energy efficiency, such as temporarily shutting down the mill and switching to on-site sieving, which consumes less energy. The mill will be reinstated as needed to support business continuity. Additionally, Cenin maintain an Environmental Product Declaration to support transparency and demonstrate its commitment to sustainable practices.
- 9.1.3. While further improvements in energy efficiency are limited due to the advanced systems already in place, Cenin remain committed to continuous development and are actively exploring new product ranges, increased use of waste materials, and future EV heavy goods vehicle (“HGV”) integration.
- 9.1.4. Any equipment that fails or requires replacement is substituted with the most energy-efficient option available, reinforcing Cenin’s commitment to continuous improvement and sustainability. This includes the new hammer mill.

9.2. Breakdown of any changes to the energy your activities Use and Create

- 9.2.1. The Installation does not import any electricity from the national grid and will not need to do so under the proposed variation. As can be seen on Figure 1, there is more power generated by the T1 wind turbine and the solar panels, than is consumed at the Installation. The power generation figures shown do not include the second (T2) wind turbine or the adjacent AD Plant.
- 9.2.2. The Tesla battery has been installed to ensure that no electricity needs to be imported to the Installation in times of no power generation. This infrastructure ensures that the Installation will not need to rely on grid electricity in the future.

Figure 1: Installation Energy Use Figures

Cenin Limited Energy Efficiency Chart



9.3. Climate Change Levy Agreement

- 9.3.1. The Installation will not be party to a Climate Change Agreement but will implement all energy saving measures as detailed in the Sections 9.1 and 9.2 above.

9.4. Efficient Use of Raw and Other Materials

- 9.4.1. The operations undertaken at the Installation use waste in place of raw materials to produce cement and building products, thus reducing the use of raw materials both at the Installation and across the building industry as a whole. For every 1 tonne of waste that Cenin recycles, 2 tonne less cement is produced by industry which means 3 tonne less limestone is quarried. This results in a saving of 2 tonnes in carbon dioxide emissions. The introduction of the additional waste types proposed under the permit variation will allow further flexibility in the products which can be made and hence further reduce the use of non-waste materials.
- 9.4.2. The process does not consume any water and will not use any under the proposed variation.

- 9.4.3. All plant and equipment is serviced and maintained in line with the PPMR, to ensure that it is operating to optimum efficiency thus minimising the fuel requirements. The new equipment added under the proposed variation will be included in the PPMR.

9.5. Waste/Residue Minimisation

Overview

- 9.5.1. Cenin reduces the waste produced and the resources used at the Installation through the replacement of raw materials with waste, the efficiency of the design of the process and the use of renewable energy to power the Installation. The process focuses on the use of waste to create a usable product thus reducing the volume of waste sent to landfill and the quantity of raw materials used in the production of cement and other building materials.

Residue Management

- 9.5.2. Minimal waste is produced at the Installation. The technology used can adjust the properties of the products (e.g. strength, setting time), helping match materials precisely to needs, thus ensuring a highly efficient process. There is therefore no residue management plan required.
- 9.5.3. General office waste and any materials found within the glass, such as bottle tops and paper, will be sent off site to be recycled (where possible).
- 9.5.4. Wherever possible, IBC's used to store additives are returned to the supplier for re-use

Waste Minimisation Audits

- 9.5.5. A waste minimisation audit will be carried out at least every four years in accordance with Permit requirements. The information obtained from the audit(s) will be used to identify opportunities for improved efficiency and reduced waste production

10. COMPLIANCE WITH BAT CONCLUSIONS

10.1. Appropriate BAT Conclusions –

- 10.1.1. A review of the techniques in use at the installation against the Best Available Techniques Reference Documents (BREF) for Waste Treatment (“Waste Treatment BAT”) was undertaken in 2020 as part of an NRW led Permit variation. In the permitting decision document, which is included as Appendix III, NRW state that “we are satisfied that the operator is currently achieving or will be achieving all relevant BAT by 17 August 2022.” There will be no changes to the existing techniques used at the Installation as part of this variation. It is therefore considered that the existing techniques will continue to constitute BAT.
- 10.1.2. A review of the Waste Treatment BAT has been undertaken as part of this permit variation application, for the Waste Treatment BAT conclusions relevant to the proposed new activity (use of the hammer mill for processing glass) and the use of a debagging machine to empty the contents of jumbo bags into the existing silos. The Waste Treatment BAT review is included in Table 5. Where there will be no change to the requirements of the BAT conclusions resultant from the proposed variation, this is listed as unchanged in Table 5.
- 10.1.3. Sector Guidance Note S5.06: recovery and disposal of hazardous and non-hazardous waste (“S5.06”) has also been considered in relation to this variation application. However, only Section 2.1.3 (storage) of S5.06 is applicable to the variation, as there are new storage arrangements for waste in bulk bags and a new storage area in the permit extension area proposed. The following sections of S5.06 are not applicable:
- Section 2.1.1 and 2.1.2: no change to the waste pre acceptance or acceptance criteria under the variation;
 - Sections 2.1.4 to 2.1.15 (treatment and various treatment methodologies); the guidance is not directly applicable to the proposed new treatment activity which falls under schedule 1, S5.4 Part A (1) (b).
- 10.1.4. It is considered that the techniques will be appropriate and proportionate to the scale of the activities at the Installation and the risks that are posed to the environment by the activities.

Table 4: BAT for Waste Treatment

BATc Ref No.	BAT Requirement	Section of Supporting Documents
Overall environmental performance		
BAT1.	In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the features listed in BATc for Waste	No Change
BAT 2.	In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below.	
a.	Set up and implement waste characterisation and pre-acceptance procedures	No Change
b.	Set up and implement waste acceptance procedures	No Change
c.	Set up and implement a waste tracking system and inventory	No Change
d.	Set up and implement an output quality management system	No Change
e.	Ensure waste segregation	CENI.01.01 EPTR ("EPTR") Section 4.11
f.	Ensure waste compatibility prior to mixing or blending of waste	EPTR Section 4.11
g.	Sort incoming solid waste	EPTR Section 4.11
BAT 3.	In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), incorporates all of the features listed in BATc for Waste.	N/A
BAT 4.	In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques listed	EPTR Section 4.11, CENI.01.01/ERA (ERA)
BAT 5.	In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.	No Change
BAT 6.	For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pretreatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	N/A
BAT 7.	BAT is to monitor emissions to water with at least the frequency listed, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	N/A
BAT 8.	BAT is to monitor channelled emissions to air with at least the frequency listed, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality	No Change

Table 4: BAT for Waste Treatment (cont)

BATc Ref No.	BAT Requirement	Section of Supporting Documents
Overall environmental performance		
BAT 9.	BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given below.	N/A
BAT 10.	BAT is to periodically monitor odour emissions	No Change
BAT 11.	BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.	No Change
BAT 12.	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1)	No Change
BAT 13.	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given listed in BATc for Waste.	
BAT 14.	In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques listed.	EPTR Section 6 and ERA
BAT 15.	BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using correct plant design and plant management	N/a – no flaring
BAT 16.	In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques listed.	
Noise and vibrations		
BAT 17.	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes elements listed	EPTR Section 6, 7 and ERA
BAT 18.	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques listed.	
Emissions to water		
BAT 19.	In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques listed	N/A no water is used in the process

Table 4: BAT for Waste Treatment (cont)

BATc Ref No.	BAT Requirement	Section of Supporting Documents
Emissions to water		
BAT 20.	In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques listed.	N/A
Emissions from accidents and incidents		
BAT 21.	In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques listed as part of the accident management plan (see BAT 1).	No Change
Material efficiency		
BAT 22.	In order to use materials efficiently, BAT is to substitute materials with waste	No Change
Energy efficiency		
BAT 23.	In order to use energy efficiently, BAT is to use both an energy efficiency plan and energy balance record.	No Change
Reuse of packaging		
BAT 24.	In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).	No Change
General BAT conclusions for the mechanical treatment of waste		
BAT 25.	In order to reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs, BAT is to apply BAT 14 and to use one or a combination of the techniques given in BATc for Waste.	No Change
BAT conclusions for the mechanical treatment in shredders of metal waste		N/A

Table 4: BAT for Waste Treatment (cont)

BATc Ref No.	BAT Requirement	Section of Supporting Documents
BAT 29 – BAT 31 (treatment of WEEE containing VFCs and/or VHCs)		N/A
BAT 32 (treatment of WEEE containing mercury)		N/A
BAT 33 - 39 (biological/aerobic/anaerobic/mechanical biological treatment of waste)		N/A
BAT conclusions for the physico-chemical treatment of solid and/or pasty waste		
BAT 40. In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).		No Change
BAT 41. In order to reduce emissions of dust, organic compounds and NH ₃ to air, BAT is to apply BAT 14d and to use one or a combination of the techniques listed.		No Change
BAT 42 – 44 (BAT conclusions for the re-refining of waste oil)		N/A
BAT 45 (BAT conclusions for the physico-chemical treatment of waste with calorific value)		N/A
BAT 46 – 47 (BAT conclusions for the regeneration of spent solvents)		N/A
BAT 48 - 49 (BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil)		N/A
BAT 50 (BAT conclusions for the water washing of excavated contaminated soil)		N/A
BAT 51 (BAT conclusions for the decontamination of equipment containing polychlorinated biphenyls)		N/A
BAT 52 – 53 (BAT conclusions for the treatment of water-based liquid waste)		N/A

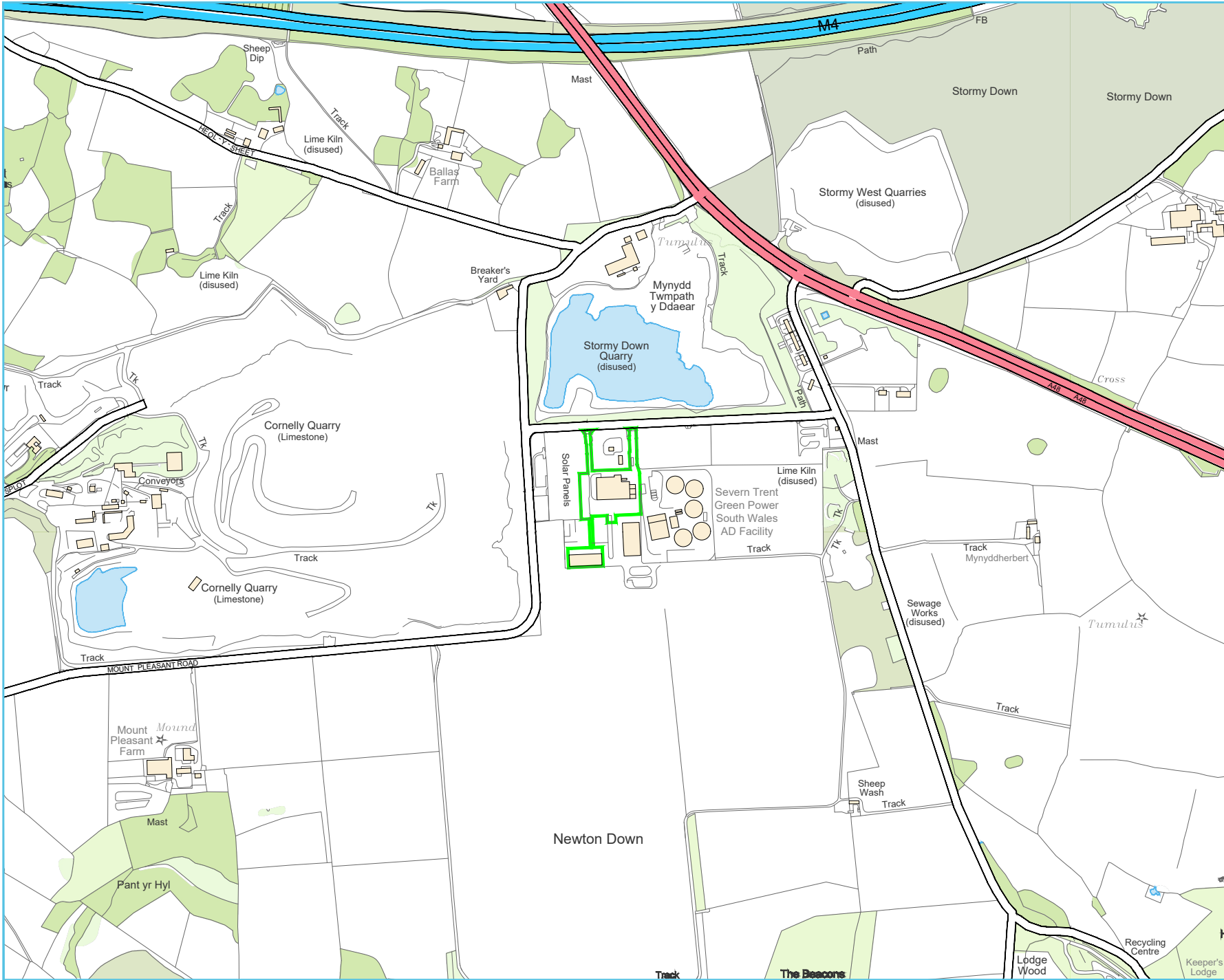
Table 5: S5.06 , Section 2.1.3: Indicative BAT for Waste Storage

Indicative BAT Ref No.	BAT Requirement	Section of Supporting Documents
1 to 4: Offloading and Discharge of Waste		Unchanged
5: Record Keeping		Unchanged
General Storage Requirements		
6: Storage areas should be located away from watercourses and sensitive perimeters, for example, those which may be adjacent to public rights of way, housing or schools, and within the security-protected area of the installation to prevent vandalism.		CENI.01.01/ERA
7: Storage areas should be located to eliminate or minimise the double handling of wastes within the installation.		EPTR Section 4.11
8: Storage areas should be clearly marked and signed with regard to the quantity and hazardous characteristics of the wastes stored therein.		EPTR Section 4.11
9: The total maximum storage capacity of the site should be clearly and unambiguously stated in writing, accompanied with details of the method used to calculate the volumes held against this maximum and set out in the site plan		Unchanged
10: All containers should be clearly labelled with the date of arrival, relevant hazard code(s), chemical identity and composition of the waste		EPTR Section 4.11
11: Storage area drainage infrastructure should ensure that all contaminated run-off is contained, that drainage from incompatible wastes cannot come into contact with each other and that fire cannot spread between storage / treatment areas via the drainage system.		EPTR Section 6.5
12: Procedures must be in place for the regular inspection and maintenance of storage areas,		EPTR Section 4.11
13: There should be daily inspection of the condition of containers and pallets and written records should be kept of these inspections		EPTR Section 4.11
14: Over-drumming should be seen as an emergency measure and take place,		Unchanged
15: There should be vehicular, for example, forklift, and pedestrian access at all times to the whole of the storage area such that the transfer of containers is not reliant on the removal of others that may be blocking access		EPTR Section 4.11
16: All spillages of hazardous wastes should be logged, where spillages >200 litre then additionally the Regulator should be informed.		Unchanged
17: Activities that create a clear fire risk should not be carried out within the storage area		CENI.01.01/FPP

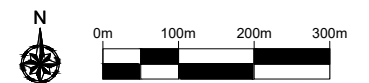
Table 5: S5.06 , Section 2.1.3: Indicative BAT for Waste Storage

Indicative BAT Ref No.	BAT Requirement	Section of Supporting Documents
18: Turnover		Unchanged
19 to 23: Storage of drummed waste and other containerised wastes such as IBCs		Unchanged
24: Aged Stock		Unchanged
Segregation		
25: the segregation of wastes should meet the requirements of HSG71 and be justified by risk assessment.		Unchanged
26: the segregation of wastes should meet the requirements of HSG71 and be justified by risk assessment.		Unchanged
27: Storage of aerosols		N/A
28 to 30: Storage of laboratory smalls		N/A
31 to 32: Compatibility Testing		Not applicable to variation
33 to 39: Transfer from tanker, drums and other containers in bulk storage		Not applicable to variation
40 to 42 Bulking up into drums (includes drum, tank, tanker or small container transfers into drums		N/A
43: Bulking of solid waste		Not applicable to variation
44 to 57: Bulk Storage vessels		Unchanged
58 to 62: Tank & process pipework labelling		N/A
Other Storage Requirements		
63: Waste or raw materials in non-waterproof packaging should be kept under cover.		EPTR Section 4.11
Container movement		
64: Drums and other mobile containers should only be moved between different locations (or loaded for removal off-site) in accordance with written procedures. The waste tracking system should then be amended to record these changes.		EPTR Section 4.10 and 4.11

APPENDIX I Drawings



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LEGEND

— ENVIRONMENTAL PERMIT BOUNDARY

Rev	Date	Details	Chkd
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Environmental Compliance Ltd.
Unit G3
The Willowford
Main Avenue
Treforest Industrial Estate
Pontypridd,
CF37 5BF

ecl
Tel: 01443 801215
Email: info@ecl.world
Web: www.ecl.world

Client

CENIN
THE CENTRE FOR
ENVIRONMENTAL
COMPLIANCE

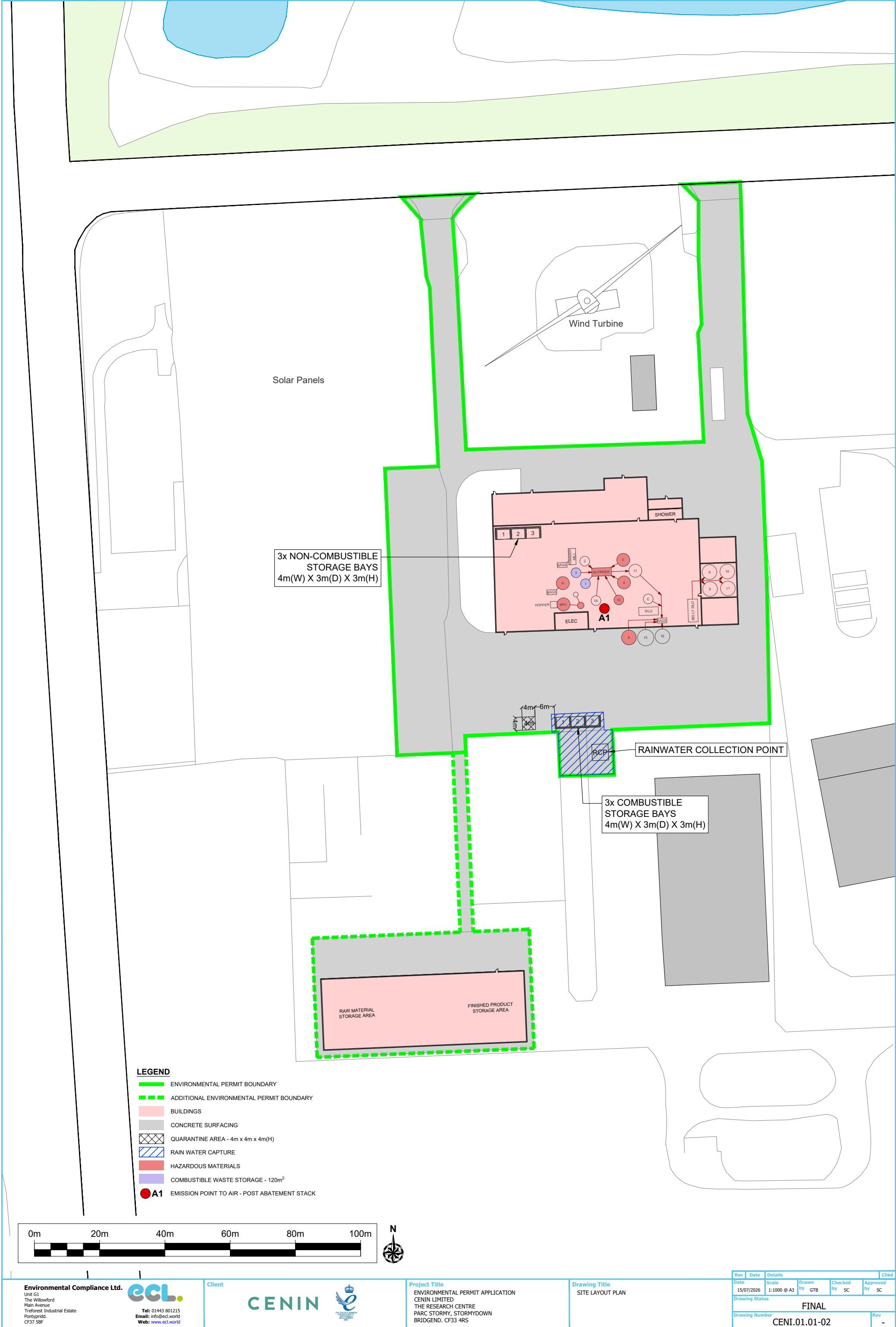
Date	Scale	Drawn by	Checked by	Approved by
15/07/2026	1:10K @ A4	GTB	SC	SC

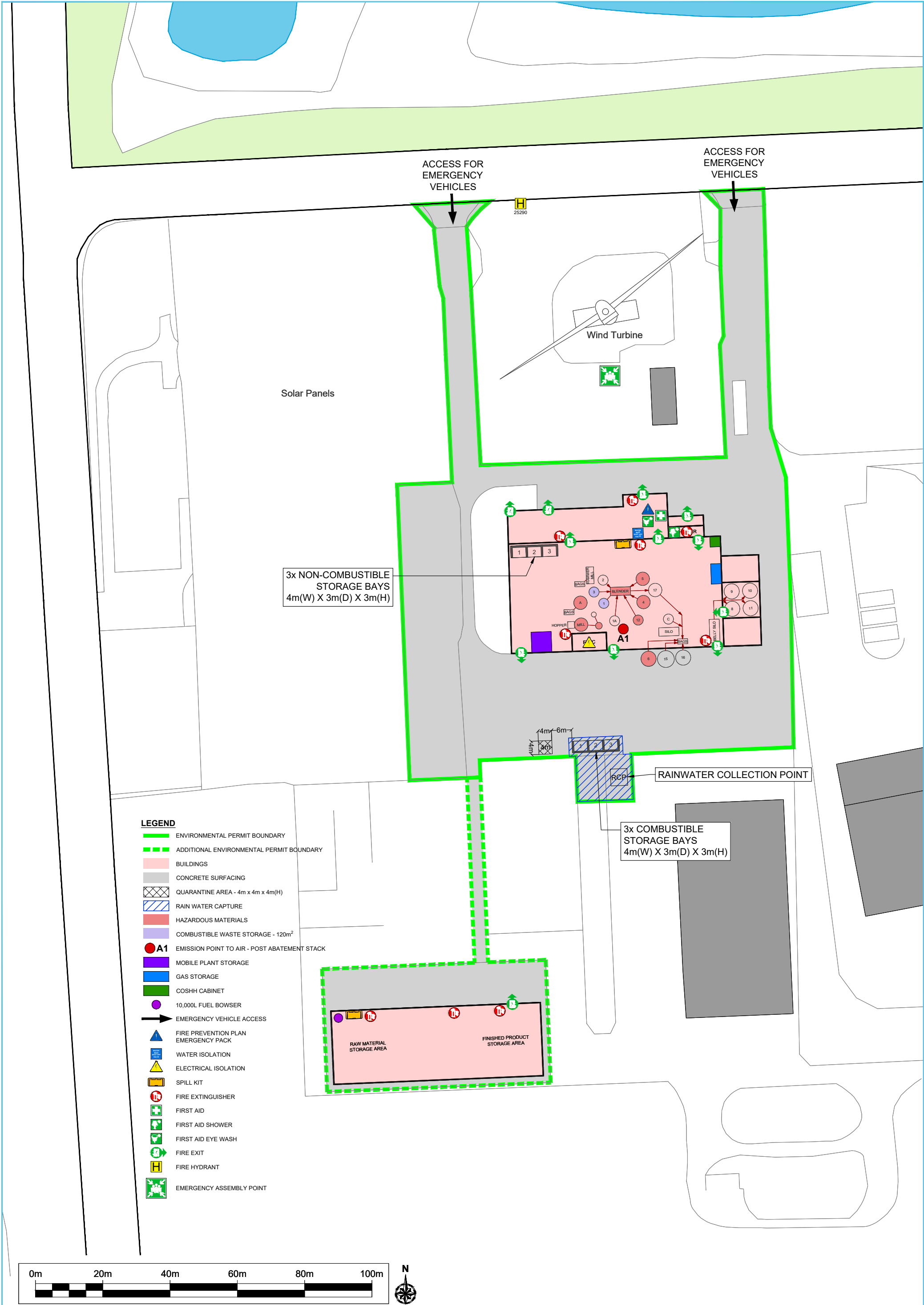
Drawing Status: **FINAL**

Project Title
ENVIRONMENTAL PERMIT APPLICATION
CENIN LIMITED
THE RESEARCH CENTRE
PARC STORMY, STORMYDOWN
BRIDGEND. CF33 4RS

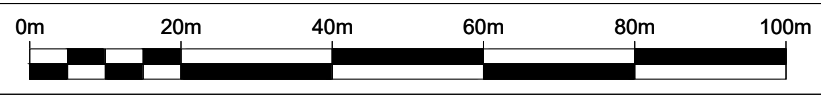
Drawing Title
SITE LOCATION PLAN

Drawing Number	Rev
CENI.01.01-01	-

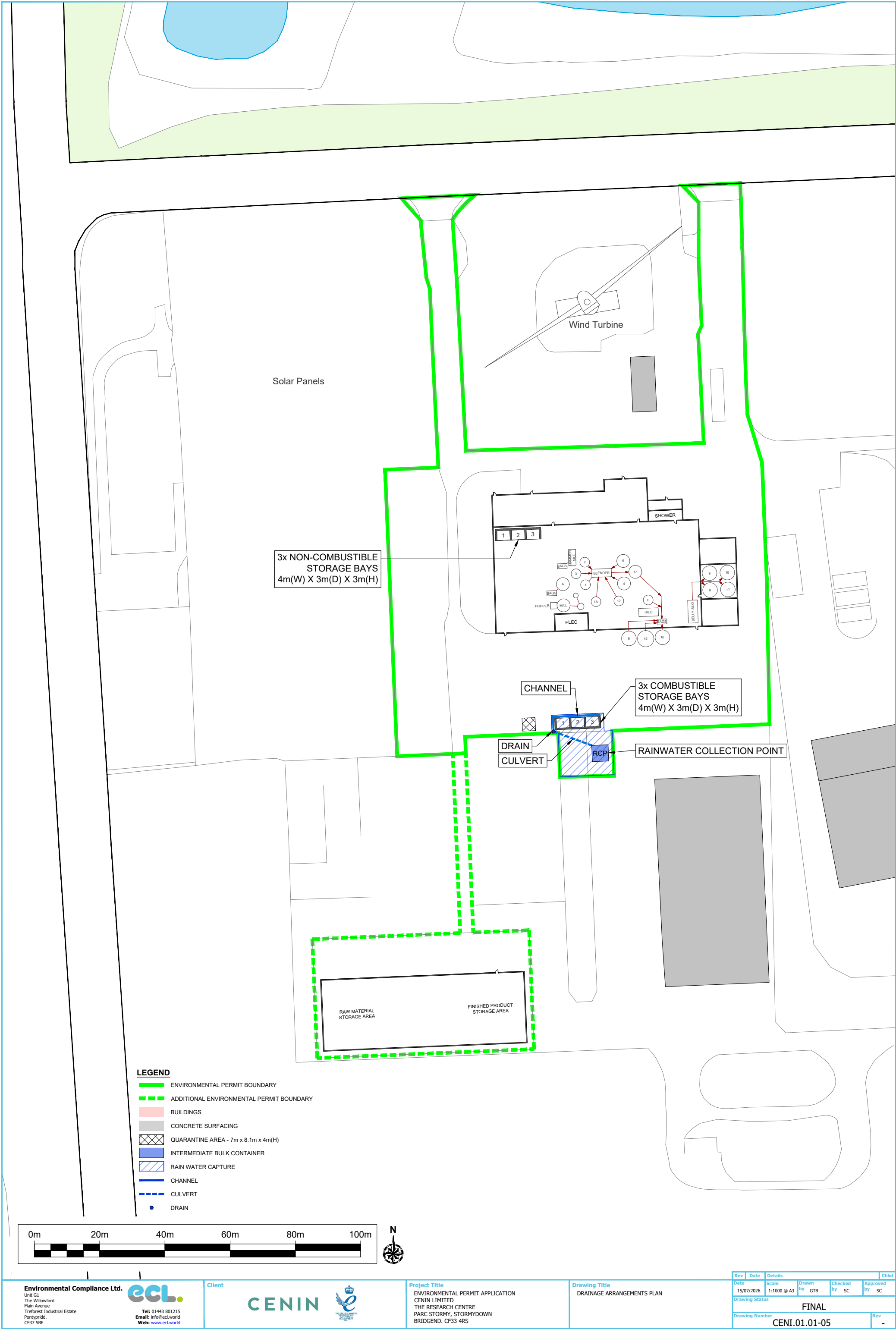




- LEGEND**
- ENVIRONMENTAL PERMIT BOUNDARY
 - ADDITIONAL ENVIRONMENTAL PERMIT BOUNDARY
 - BUILDINGS
 - CONCRETE SURFACING
 - QUARANTINE AREA - 4m x 4m x 4m(H)
 - RAIN WATER CAPTURE
 - HAZARDOUS MATERIALS
 - COMBUSTIBLE WASTE STORAGE - 120m²
 - A1 EMISSION POINT TO AIR - POST ABATEMENT STACK
 - MOBILE PLANT STORAGE
 - GAS STORAGE
 - COSHH CABINET
 - 10,000L FUEL BOWSER
 - EMERGENCY VEHICLE ACCESS
 - FIRE PREVENTION PLAN EMERGENCY PACK
 - WATER ISOLATION
 - ELECTRICAL ISOLATION
 - SPILL KIT
 - FIRE EXTINGUISHER
 - FIRST AID
 - FIRST AID SHOWER
 - FIRST AID EYE WASH
 - FIRE EXIT
 - FIRE HYDRANT
 - EMERGENCY ASSEMBLY POINT



Rev	Date	Details	Drawn	Checked	Approved	Chkd
15/07/2026	15/07/2026	1:1000 @ A3	GTB	SC	SC	
Drawing Status						
FINAL						
Drawing Number						
CENI.01.01-04						
Rev						
-						



APPENDIX II

ISO 14001 and CIWM Continuing Competence Certificate

Certificate of Approval

This is to certify that the Management System of:

Cenin Limited

Stormy Down, The Research Centre, Parc Stormy, Bridgend, CF33 4RS, United Kingdom

has been approved by LRQA to the following standards:

ISO 9001:2015, ISO 14001:2015

Approval number(s): ISO 9001 – 0044144, ISO 14001 – 0044145

The scope of this approval is applicable to:

Manufacture of cement replacement and soil stabilisation products.



David Derrick

Regional Director, UKAM

Issued by: LRQA Limited



Continuing Competence Certificate

This certificate confirms that

Philip Davis

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 24/01/2025

TMH

Treatment - Hazardous Waste

Expiry Date:
24/01/2027

Verification date: 23/01/2025

Authorised:



Responsible Officer

Learner ID: 25662

Certificate No.: 5272055

Date of Issue: 24/01/2025



CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



APPENDIX III

BAT Permitting Decision Document

Natural Resources Wales permitting decisions

Variation and Consolidation of a bespoke Permit – Cenin Limited

We have decided to issue a Natural Resources Wales initiated variation and consolidated permit for The Research Centre in Parc Stormy, Stormy Down, Bridgend, CF33 4RS operated by Cenin Limited.

The permit number is EPR/SP3936TL/V005.

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.

The permit has been varied following the publication of the revised Best Available Techniques (BAT) Reference Documents (BREF) for Waste Treatment. The associated BAT conclusions to this document were published on 17 August 2018 in the Official Journal of the European Union.

This variation incorporates the changes required by the Industrial Emissions Directive following a statutory review of permits in the Waste Treatment sector. These include the amendment of the wording of several permit conditions relating to notifications, changes to emissions limits and monitoring requirements.

We are satisfied that the operator will be compliant with the published BAT conclusions which will apply from 17 August 2022.

Purpose of this document

This decision document:

- explains how we have carried out our statutory review of the Operator's Permit;
- why we have decided to vary the Permit as a result of that review; and
- why we have included the specific conditions in the revised Permit through the variation notice we are issuing.

It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position.

Structure of this document

- Assessment of The Research Centre against the published BAT conclusions for Waste Treatment.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusions

Assessment of The Research Centre against the published BAT conclusions for Waste Treatment

1. Our decision

We have issued a variation, which will allow Cenin Limited to operate the installation, subject to the conditions in the varied permit.

The variation does three things:

- it consolidates the original permit to reflect changes made through earlier variations;
- it brings the permit into line with our modern regulatory template; and
- it varies the permit where appropriate to reflect the outcome of our statutory review and incorporate Best Available Techniques (BAT) and Associated Emission Limit Values (BAT-AELs).

We consider that, in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the permit will continue to ensure that a high level of protection is provided for the environment and human health.

The original permit, issued on the 24/06/2011, ensured that the installation, employed Best Available Techniques (BAT) and ensured a high level of protection for human health and the environment. We have altered the permit as a result of the statutory review, and we are confident that the new requirements will deliver a superior level of protection to that which was previously achieved. Where a site is not currently compliant with BAT, Improvement Conditions have been included to bring the site up standard by 17 August 2022.

2. The legal framework

The Variation and Consolidation Notice (which includes the consolidated permit as Schedule 2) will be issued under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 (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 Industrial Emissions Directive (IED);

- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Variation and Consolidated Permit, it will ensure that the operation of the installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

3. How we reached our decision

Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 on 05/04/2019 requiring the operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Regulation 61(1) Notice required the operator to:

- Describe the techniques that will be implemented before 17 August 2022, which will then ensure that operations meet the revised standard, or
- Justify why standards will not be met by 17 August 2022, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- Justify why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.
- Where their permitted activity involves the use, production or release of a hazardous substance, as defined in Article 3(18) of the Industrial Emissions Directive, Cenin Limited were required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity. All waste and products are delivered to the facility and processed in sealed silos. The facility is housed within a World

War Two RAF base comprising an aircraft hangar with a concrete floor. The permitted activity should not give rise to any soil or groundwater contamination.

- Where their permitted activity involves the use, production, storage or release of priority hazardous substances and any other relevant substances., as defined by the Water Framework Directive, Cenin Limited were required to carry out a risk screening assessment considering the presence of priority hazardous substances at the permitted installation. There are no emissions to water from this site via direct or indirect routes.

The Regulation 61(1) Notice response from the operator was received on the 26/09/2019 and additional information received on 15/07/2020 and 14/12/2020. We considered that the response contained sufficient information for us to commence determination of the permit review. The operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61(1) Notice response that appears to be confidential in relation to any part.

4. Key issues/Regulation 61 response

BAT Conclusions for the Waste Treatment were published as Commission Implementing Decision EU 2018/1447 in the Official Journal of the EU on 17 August 2018. There are 53 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This should be read in conjunction with the permit/variation notice issued.

A detailed response was received from Cenin Limited. Following assessment of the Regulation 61(1) response, further information was requested from Cenin Limited. Where the operator has concluded that they have achieved BAT, and we are in agreement, no further information/justification has been sought by Natural Resources Wales.

5. Changes we have made

Improvement Conditions

No improvement conditions were set.

As per NRW's Fire Prevention and Mitigation Guidance, if an operator has an environmental permit that authorises the storage of combustible waste, or an existing

permit with a permit condition requiring you to have a Fire Prevention Mitigation Plan (FPMP), the operator must adhere to this guidance. Conditions to require a Fire Prevention Mitigation Plan were not set as the waste accepted at the site is not considered to be a combustible waste. Our guidance does not apply to hazardous waste storage. Therefore, any regulated facility storing hazardous waste shall include a section for waste storage and fire prevention techniques and reference the relevant guidance for this as part of the facilities Environmental Management System (EMS). This could be the Health and Safety Executive guidance. The operator shall state how it will store waste and prevent fires.

Operational Changes

As part of this review, the permit has been consolidated to reflect changes made through earlier variations. In addition to bringing the permit in line with our modern regulatory template, the listed activity of S5.6 A1 (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 was added into *Table S1.1 activities* as the facility can store over 50 tonnes of hazardous waste at any one time and this activity had not previously been included in the permit. This has changed the sites OPRA score from 52 to 67.

We have included the annual tonnage and raw material types within Tables S2.1 and S2.2. These were given in the Response to Schedule 5 Notice dated 01/02/11. The annual tonnage limit had been incorporated into the permit via Table S1.2 on issue of the original permit, but this limit is now explicitly given within the permit.

Upon review of the permit it was confirmed via email on 25/01/2021 that the activity of Milling of waste specified in Table S2.2 as part of production trials had not occurred and nor was it likely to. The activity could only be carried out once the report specified within the pre-operational measures for future development (Table S1.3) has been completed and submitted to the regulator for approval. The operator requested the pre-operational condition was removed from the permit and this has been granted. To facilitate this the following changes in the permit have been made:

- Condition 2.5 (Pre-operational conditions), Table S1.3 (Pre-operational measures for future development) and Table S2.2 (Permitted waste types and

quantities for blending only in cement production) have been deleted as they are no longer required.

- Table S1.1 (activities) and Table S2.1 (Permitted waste types and quantities for cement production) have been updated to remove the references to waste Table S2.2

Emissions to Water

There are no emissions to water associated with the permitted activity.

Emissions to Water – Article 15(4) Derogations

No derogations

Emissions to Air

There were changes to the Emission Limit Values (ELV's) for emissions to air taking into account BAT conclusions from the Waste Treatment BREF.

The tables below outline the parameters and limits set to implement the BAT-AELs:

Effective until 16 August 2022

Release point	Parameter	Limit/ BAT AEL	Effective until
A1 [Point A1 on site plan in schedule 7]	Particulate matter	10 mg/m ³	16 August 2022

Effective from 17 August 2022

Release point	Parameter	Limit/ BAT AEL	Effective from
A1 [Point A1 on site plan in schedule 7]	Particulate matter	5 mg/m ³	17 August 2022

Emissions to Air – Article 15(4) Derogations

No derogations

Other IED BREFs relevant to the permit review

There are no specific listed activities within Table S1.1 of the permit that are within scope of other published BREFS.

6. Conclusion

We consider that the installation already employed what used to be BAT, and that the operator has achieved significant improvements in performance since the permit was originally granted. The revised BREF and its BAT-AELs provide the opportunity to consider further environmental improvements.

Coupled with the consolidation and modernisation of the permit, we believe this variation provides a sound basis for ongoing regulation of the installation and we are satisfied that the operator is currently achieving or will be achieving all relevant BAT by 17 August 2022.

We believe that we have ensured compliance with all relevant legal requirements in carrying out this review and making our determination on the variation.

Annex 1: Decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the Waste Treatment Bref were published as a Commission Implementing Decision ((EU 2018/1147) in the Official Journal of the EU on 10 August 2018. There are 53 BAT Conclusions. This checklist provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the consolidated variation notice.

All BAT Conclusions arising are listed by number in order below;

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
OVERALL ENVIRONMENTAL PERFORMANCE		
	Environment Management System (EMS) – <u>ALL</u> of the following:	
1	I. Management commitment	Currently compliant The operator has stated that an EMS (called Internal Management System) and Policy Statement is in place signed off by senior management. Regular management reviews are undertaken in accordance with the requirements of ISO 14001. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> and <i>Cenin Ltd Internal Management Systems Manual</i>
	II. Environmental policy development including CI of performance	Currently compliant The operator has stated that an environmental policy is in place with a commitment to continuous improvement Referenced document <i>Cenin Ltd Internal Management Systems Manual</i> .

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	III.	Planning and implementing procedures & targets in conjunction with financial planning & investment	Currently compliant The operator has stated that regular management reviews are undertaken in accordance with the requirements of ISO 14001 to ensure that progress is being made against defined targets and to establish corrective or preventive actions as necessary. Referenced document <i>IMS03-01 - Improvement Programmes</i> .
	IV.	Implementation of procedures	
		(a) Structure & responsibility	Currently compliant The operator has stated that this is detailed in the EMS. Referenced document <i>Cenin Ltd Internal Management Systems Manual</i> .
		(b) Recruitment, training, awareness & competence	
		(c) Communication	
		(d) Employee involvement	
		(e) Documentation	
		(f) Effective process control	
		(g) Maintenance programmes	
		(h) Emergency preparedness & response	
	(i) Safeguarding compliance with environmental legislation		
	V.	Checking performance and taking corrective action	
		(a) Monitoring & measurement	Currently compliant The operator has stated that every element of the system is audited at least once annually, and critically important elements are audited more frequently. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> and <i>Cenin Ltd Internal Management Systems Manual</i>
		(b) Corrective and preventive action	Currently compliant The operator has stated that the results of the audits are reviewed by senior management; actual or potential problems are recorded and

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			documented through the Non-Conformance procedures and are reviewed in management meetings. Referenced documents <i>NRW BAT Review Further Section 61 responses and Cenin Ltd Internal Management Systems Manual</i>
		(c) Maintenance of records	Currently compliant The operator has stated that records are kept in the form of audit reports, Non-Conformance procedures, Corrective Action Requests and management meetings. Referenced documents <i>NRW BAT Review Further Section 61 responses and Cenin Ltd Internal Management Systems Manual</i>
		(d) Independent (where practicable) internal or external EMS auditing	Currently compliant The operator has stated that internal audits are conducted by external consultants who are qualified Lead Auditors. Annual external audits are completed by a UKAS accredited body. Referenced documents <i>NRW BAT Review Further Section 61 responses and Cenin Ltd Internal Management Systems Manual</i>
	VI.	Senior management review of EMS	Currently compliant The operator has stated that all findings from the internal audits are fed back to management for review before any actions are taken. There are also monthly management meetings, with a full system review taking place annually in accordance with the requirements of ISO 14001:2015. Referenced documents <i>NRW BAT Review Further Section 61 responses and Cenin Ltd Internal Management Systems Manual</i> .
	VII.	Following development of cleaner technologies	Currently compliant The operator has stated that this is part of the Policy Statement within their EMS. Referenced documents <i>NRW BAT Review Further Section 61 responses and Cenin Ltd Internal Management Systems Manual</i> .
	VIII.	Whole life cycle considerations when designing a new plant i.e. impacts from eventual decommissioning and throughout its operating life	Currently compliant The operator has provided information on the Whole life cycle considerations when designing a new plant.

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			Referenced document: <i>email response to request for information received 14/12/2020.</i>
	IX.	Regular sectoral bench marking	Not applicable The operator has stated that the permitted activity is a unique process not covered by sector benchmarking. Operator has stated that internal benchmarking processes are in place. Referenced documents <i>Section 61 review FINAL</i> and <i>NRW BAT Review Further Section 61 responses</i>
	X.	Waste stream management (BAT 2)	Currently compliant The operator has stated that there are documented procedures in place for the pre-acceptance, acceptance and rejection of waste (See BAT 2). Referenced document <i>NRW BAT Review Further Section 61 responses</i>
	XI.	Inventory of waste water & waste gas streams (BAT 3)	Currently compliant The operator has confirmed that there are no waste water streams generated on site. No waste gas streams are generated from the permitted waste streams either prior or post the manufacturing process other than Co ² derived from the burner for the mill. All wastes and products are delivered and processed in sealed silos. The permit includes emissions to air for the diesel generator exhaust and vents in storage silos and conveyor lines, but these have no emissions parameters or limits and no reporting requirements. Referenced document: <i>email response to request for information received 14/12/2020.</i>
	XII.	Residues Management Plan – S6.5	Currently compliant The operator has stated that by the nature of the permitted activity, minimal quantities of waste are generated. Wherever possible, IBC's that have been used to store additives are returned to the supplier for re-use. See <i>NRW BAT Review Further Section 61 responses</i> .
	XIII.	Accident Management Plan – S6.5	Currently compliant The operator has stated that an accident management is in place. Referenced document <i>Appendix 9 Cenin Ltd Accident Management Plan</i>

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	XIV.	Odour Management Plan (BAT 12)	Not applicable Continuous monitoring carried out, activities occur in an undercover sealed system with undercover storage and daily housekeeping checks (odour tests are conducted at the site boundaries). Reference documents <i>Section 61 review FINAL</i> and <i>NRW BAT Review Further Section 61 responses</i>
	XV.	Noise & Vibration Management Plan (BAT 17)	Currently compliant The operator has stated that a Noise Management Plan is in place and that there is a full programme of preventative maintenance in place for all equipment to ensure that it is operating to optimum performance in order to reduce the impacts from noise or vibration. Referenced documents <i>Appendix 6 Cenin Ltd Noise Management Plan</i> and <i>NRW BAT Review Further Section 61 responses</i>
2	Improving overall environmental performance – <u>ALL</u> of the following:		
	a.	Set up and implement waste characterisation & pre-acceptance procedures	Currently compliant The operator has stated that waste characterisation & pre-acceptance procedures are in place. Referenced documents <i>Section 61 review FINAL</i> , <i>S5 Response (Cenin to EA)</i> and <i>NRW BAT Review Further Section 61 responses</i>
	b.	Set up and implement waste acceptance procedures	Currently compliant The operator has stated that waste acceptance procedures are in place. Referenced documents <i>Section 61 review FINAL</i> , <i>S5 Response (Cenin to EA)</i> and <i>NRW BAT Review Further Section 61 responses</i>
	c.	Set up and implement a waste tracking system & inventory	Currently compliant The operator has confirmed that a waste tracking system & inventory is in place. Referenced document: <i>email response to request for information received 14/12/2020</i> .
	d.	Set up and implement an output quality management system	Currently compliant The operator has confirmed that an output quality management system is in place.

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			Referenced document: <i>email response to request for information received 14/12/2020.</i>
	e.	Ensure waste segregation	Currently compliant The operator has confirmed that waste is segregated where relevant. Referenced document: <i>email response to request for information received 14/12/2020.</i>
	f.	Ensure waste compatibility prior to mixing or blending	Currently compliant The operator has confirmed that waste compatibility is ensured prior to mixing or blending. Referenced document: <i>email response to request for information received 14/12/2020.</i>
	g.	Sort solid incoming waste – S6.4	Not applicable Solid waste is not accepted on site.
3	Establish and maintain a waste water and waste gas inventory as part of the EMS - <u>ALL</u> of the following:		
	Information on characteristics of waste and waste treatment processes		
	(i)(a)	simplified process flow sheets showing emission sources	Currently compliant Emission sources are given within permit. Referenced document: EPR/SP3936TL
	(i)(b)	Process-integrated and waste water/waste gas treatment descriptions including performance	Currently compliant The operator has confirmed that bag filters are in place for treating mill emissions, and stack monitors are in place to collect data from mill emissions. Referenced documents S5 Response (Cenin to EA)
	Information on characteristics of waste water streams		
	(ii)(a)	<i>Mean and variability of:</i>	Not applicable Waste water is not generated by treatment
		Flow	
		pH	
		Temperature	

BATc number		Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant		
		Conductivity				
	(ii)(b)	Mean concentration, load and variability of:				
		Total suspended solids				
		COD/TOC				
		Nitrogen species		Not applicable		
		Phosphorous		Waste water is not generated by treatment		
		Metals				
		Priority substances/micropollutants				
		Any other relevant compounds				
	(ii)(c)	Bioeliminability data (see BAT 52):				
		BOD		Not applicable		
		BOD to COD ratio		Waste water is not generated by treatment		
		Zahn-Wellens test				
		Biological inhibition potential				
	Information on characteristics of waste gas streams					
	(iii)(a)	Mean and variability of:				
		Flow		Not applicable		
		temperature		Dust is only relevant characteristic of waste gas stream.		
	(iii)(b)	Mean concentration, load and variability of relevant substances:				
		Organic compounds				
		POPs e.g. PCBs		Not applicable		
		Any other relevant compounds		Dust is only relevant characteristic of waste gas stream		

BATc number		Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
4	(iii)(c)	Flammability		Not applicable Dust is only relevant characteristic of waste gas stream	
		Lower and Higher Explosive Limits			
		Reactivity			
	(iii)(d)	Presence of other substances that may affect the gas treatment system or plant safety:			Not applicable Dust is only relevant characteristic of waste gas stream
		O2			
		N2			
		Water vapour			
		Dust		Currently compliant The permit contains a particulate matter emission limit, which under BAT 41 is reducing to 5 mg/Nm3 which will become effective from 17th August 2022. The operator has confirmed that they can meet the BAT AEL. This reduced BAT AEL has been included within the permit. Referenced documents: <i>email response to request for information received 14/12/2020</i> and <i>BAT 41 Cenin Ltd Stack emissions 2020 Averages - Daily, Monthly</i>	
	Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:				
	a.	Optimised storage location		Currently compliant The operator has stated that storage locations have been optimised. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> .	
b.	Adequate storage capacity		Currently compliant The operator has stated that there is adequate storage capacity on site. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> .		
c.	Safe storage operation		Currently compliant The operator has stated that safe storage operations are in place.		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> .
	d.	Currently compliant The operator has stated that there are separate areas for storage and the handling of packaged hazardous waste. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> .
5	Set up and implement procedures to reduce the environmental risk associated with handling and transfer of waste - include following elements:	
	Carried out by competent staff	Currently compliant The operator has stated that the handling and transfer of waste is carried out by competent staff. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> .
	Duly documented, validated and verified	Currently compliant The operator has stated that the handling and transfer of waste is documented, validated and verified. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> .
	Spill prevention, detection and mitigation measures	Currently compliant The operator has stated that spill prevention, detection and mitigation measures are in place for the handling and transfer of waste. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> .
	Take precautions when mixing or blending wastes	Currently compliant The operator has stated the precautions made when mixing and blending wastes. Referenced documents <i>NRW BAT Review Further Section 61 responses</i> .
	Procedures are risk-based and consider likelihood of accidents, incidents and their environmental impact	Currently compliant The operator has stated that procedures for the handling and transfer of waste are risk based and consider the likelihood of accidents, incidents and their environmental impact. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
MONITORING		
6	Relevant emissions to water: monitor key process parameters at key locations	
	Key process parameters	
	Waste water flow	Not applicable Emissions to water not permitted
	pH	
	Temperature	
	Conductivity	
	BOD	
	Other process parameters	
	Key monitoring locations	
	Pre-treatment inlet and/or outlet	Not applicable Emissions to water not permitted
	Final treatment inlet	
	Discharge point (to the environment)	
	Other location	
7	Monitoring emissions to water (refer to table) Monitoring parameters depend on waste treatment process(es) involved	Not applicable Emissions to water not permitted
8	Monitoring emissions to air (refer to table) Monitoring parameters depend on waste treatment process(es) involved	Currently compliant The operator has stated that emissions data collected constantly while mill in use, data downloaded and interrogated fortnightly and is saved in shared management database. This exceeds the minimum monitoring frequency as set in Dust Standard: EN13284-1. Referenced document <i>Section 61 review FINAL</i>
9	Monitoring diffuse emissions of organic compounds to air from processes involving solvents. Use one or a combination of the following:	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	a	Measurement – S6.2 descriptions	Not applicable
	b	Emissions factor calculation	No diffuse emissions of organic compounds to air from processes involving solvents.
	c	Mass balance calculation	
10	Periodically monitor odour emissions where nuisance is expected and/or has been substantiated (monitoring frequency is outlined in BAT 12)		Not applicable Odour nuisance is not expected, nor has it been substantiated. However daily housekeeping checks are carried out with odour tests are conducted at the site boundaries. Reference documents <i>Section 61 review FINAL</i> and <i>NRW BAT Review Further Section 61 responses</i> .
	Use EN standards e.g. 13725 or 16841		
	Use equivalent methods e.g. ISO / national / international monitoring standards		
11	Annual monitoring for:		Currently compliant via ISO14001 and waste returns. Reporting forms to be completed from permit issue as set in Schedule 4 of the permit.
	- Water, energy and raw materials		
	- Generation of residues and waste water		
EMISSIONS TO AIR			
12	Set up, implement and review an Odour Management Plan (as part of the site EMS) where nuisance is expected and/or has been substantiated. Include <u>ALL</u> of the following:		
	Protocol containing actions and timelines		Not applicable
	Protocol for conducting odour monitoring (BAT 10)		Odour nuisance is not expected, nor has it been substantiated. However daily housekeeping checks are carried out with odour tests are conducted at the site boundaries.
	Protocol for response to odour incidents/complaints		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Odour prevention and reduction programme	Reference documents <i>Section 61 review FINAL</i> and <i>NRW BAT Review Further Section 61 responses</i> .
13	Techniques to prevent, or where not practicable reduce odour emissions. Use one or a combination of the following:	
	a. Minimising residence times (open systems only)	Not applicable
	b. Use chemical treatment (N/A if desired output is hampered)	Odour nuisance is not expected, nor has it been substantiated.
	c. Optimising aerobic treatment – see examples. Refer to BAT 36 for wastes other than water-based liquid waste.	Continuous monitoring carried out, activities occur in an undercover sealed system with undercover storage and daily housekeeping checks (odour tests are conducted at the site boundaries). Reference documents <i>Section 61 review FINAL</i> and <i>NRW BAT Review Further Section 61 responses</i> .
14	Techniques to prevent, or where not practicable reduce diffuse emissions to air, in particular of dust, organic compounds and odour. Use one or a combination of the following:	
	a. Minimising potential diffuse emission sources – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by minimising potential diffuse emission sources. Referenced document <i>NRW BAT Review Further Section 61 responses</i>
	b. Select and use high-integrity equipment – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by using high-integrity equipment. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .
	c. Corrosion prevention – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by using corrosion prevention. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .
	d. Containment, collection and treatment of diffuse emissions – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by using containment, collection and treatment of diffuse emissions. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .
	e. Dampening (with water or fog)	Not applicable Sealed process

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	f.	Maintenance – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by using a maintenance programme. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .
	g.	Cleaning of waste treatment and storage areas – see examples	Currently compliant The operator has stated how they will prevent or reduce diffuse emissions to air by cleaning of waste treatment and storage areas. Referenced document <i>NRW BAT Review Further Section 61 responses</i> .
	h.	Leak Detection and Repair (LDAR) programme for organics – S6.2	Not applicable No organic compounds
15	Use flaring only for safety reasons or non-routine operating conditions (OTNOC). Use <u>both</u> of the following:		
	a.	Correct plant design – see examples	Not applicable Flaring not permitted.
	b.	Plant management including gas system balancing and advanced process control	
16	Reduce emissions to air when flaring is unavoidable. Use <u>both</u> of the following:		
	a.	Correct design of flaring devices – see examples	Not applicable Flaring not permitted.
	b.	Monitoring and recording as part of flare management – see examples	
NOISE AND VIBRATIONS			
17	Set up, implement, and regularly review a Noise and Vibration Management Plan (as part of the EMS) where nuisance is expected and/or has been substantiated. Include <u>ALL</u> of the following:		
	I.	Protocol with actions and timelines	Currently compliant The operator has stated that a Noise Management Plan is in place and includes protocol with actions and timelines.

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> , <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 6 Cenin Ltd Noise Management Plan</i> .
	II.	Noise and vibration monitoring plan/protocol	Currently compliant The operator has stated that a Noise Management Plan is in place and includes monitoring plan/protocol. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> , <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 6 Cenin Ltd Noise Management Plan</i> .
	III.	Noise & vibration complaint response plan/protocol	Currently compliant The operator has stated that a Noise Management Plan is in place and includes complaint response plan/protocol. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> , <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 6 Cenin Ltd Noise Management Plan</i> .
	IV.	Noise and vibration reduction programme	Currently compliant The operator has stated that a Noise Management Plan is in place and includes a noise and vibration reduction programme. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> , <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 6 Cenin Ltd Noise Management Plan</i> .
18	Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:		
	a.	Appropriate location of equipment and buildings	Currently compliant
	b.	Operational measures – see examples	The operator has stated that a Noise Management Plan is in place and includes Techniques to prevent or reduce noise and vibration emissions. Referenced documents <i>Section 61 review FINAL</i> and <i>S5 Response (Cenin to EA)</i> , <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 6 Cenin Ltd Noise Management Plan</i> .
	c.	Low-noise equipment – see examples	
	d.	Noise & vibration control equipment – see examples	
	e.	Noise attenuation – see examples	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
EMISSIONS TO WATER		
19	Optimise water consumption, reduce waste water generation and prevent or where not practicable reduce emissions to soil and water. Use one or a combination of the following:	
	a. Water management – see examples	Currently compliant The operator has stated that permitted activity already uses minimal water in processes. Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA) and NRW BAT Review Further Section 61 responses.</i>
	b. Water recirculation	Not applicable Water recirculation not suitable for processes
	c. Impermeable surface	Currently compliant The operator has stated that activities are carried out on impermeable surfaces. Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA) and NRW BAT Review Further Section 61 responses.</i>
	d. Reduce likelihood and impact of tank/vessel overflows and failures – see examples	Currently compliant The operator has stated that fuel tank on site meets relevant legislation. Spill kits and staff are trained in how to deal with spills Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA) and NRW BAT Review Further Section 61 responses.</i>
	e. Roofing of waste storage and treatment areas	Currently compliant The operator has stated that activities carried out undercover. Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA) and NRW BAT Review Further Section 61 responses.</i>
	f. Segregation of water streams (being mindful of existing plant constraints)	Not applicable Segregation of water streams not suitable for processes
	g. Adequate drainage infrastructure	Currently compliant The operator has stated that activities are carried out on impermeable surfaces. Water discharges from site are not permitted.

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
			Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA)</i> and <i>NRW BAT Review Further Section 61 responses</i> .
	h.	Design and maintenance provisions to allow risk-based leak detection and repair. Minimise use of underground components.	Not applicable Not suitable for processes
	i.	Appropriate buffer storage capacity (being mindful of existing plant constraints)	Currently compliant The operator has stated that fuel tank on site meets relevant legislation. Referenced documents <i>Section 61 review FINAL, S5 Response (Cenin to EA)</i> and <i>NRW BAT Review Further Section 61 responses</i> .
20	Treat waste water using a combination of:		
	Preliminary, primary and general treatment		
	a.	Equalisation	Not applicable Waste water treatment not permitted
	b.	Neutralisation	
	c.	Physical separation	
	Physico-chemical treatment		
	d.	Adsorption	Not applicable Waste water treatment not permitted
	e.	Distillation/rectification	
	f.	Precipitation	
	g.	Chemical oxidation	
	h.	Chemical reduction	
	i.	Evaporation	
	j.	Ion exchange	
	k.	Stripping	
	Biological treatment		
	l.	Activated sludge process	Not applicable

BATc number		Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
	m.	Membrane bioreactor		Waste water treatment not permitted	
	Nitrogen removal				
	n.	Nitrification/denitrification (where biological treatment used)		Not applicable Waste water treatment not permitted	
	Solids removal				
	o.	Coagulation and flocculation		Not applicable Waste water treatment not permitted	
	p.	Sedimentation			
	q.	Filtration (sand, micro, ultra)			
	r.	Flotation			
	BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l) Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7				
	TOC	10.0-60 10-100 for water-based liquid waste		Not applicable Waste water treatment not permitted	
	COD (TOC is preferred)	30-180 30-300 for water-based liquid waste			
	Suspended solids	5.0-60			
	HOI	0.5-10 applying to specific waste treatments			
	Total N	1-25 for biological treatment and waste oil re-refining 10-60 for water-based liquid waste			

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Total P	0.3-2 for biological treatment 1-3 for water-based liquid waste	
	Phenol	0.05-0.2 for waste oil re-refining and physio-chemical treatment of waste with CV 0.05-0.3 for water-based liquid waste	
	Free CN-	0.02-0.1 for water-based liquid waste	
	AOX	0.2-1 for water-based liquid waste	
	Metals & Metalloids – specific waste treatments as listed in Table 6.1		Not applicable Waste water treatment not permitted
	As	0.01-0.05	
	Cd	0.01-0.05	
	Cr	0.01-0.15	
	Cu	0.05-0.5	
	Pb	0.05-0.1	
	Ni	0.05-0.5	
	Hg	0.5-5	
	Zn	0.1-1	
	Metals & Metalloids – treatment of water-based liquid waste		Not applicable Waste water treatment not permitted
	As	0.01-0.1	
	Cd	0.01-0.1	
	Cr	0.01-0.3	
	Hexavalent Cr [Cr(VI)]	0.01-0.1	

BATc number		Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
	Cu	0.05-0.5			
	Pb	0.05-0.3			
	Ni	0.05-1			
	Hg	1.0-10			
	Zn	0.1-2			
	BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l)				
	Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7				
	HOI	0.5-10 applying to specific waste treatments		Not applicable Waste water treatment not permitted	
	Free CN-	0.02-0.1 for water-based liquid waste			
	AOX	0.2-1 for water-based liquid waste			
	Metals & Metalloids – specific waste treatments as listed in Table 6.2				
	As	0.01-0.05		Not applicable Waste water treatment not permitted	
	Cd	0.01-0.05			
	Cr	0.01-0.15			
	Cu	0.05-0.5			
	Pb	0.05-0.1			
	Ni	0.05-0.5			
	Hg	0.5-5			
	Zn	0.1-1			
	Metals & Metalloids – treatment of water-based liquid waste				
As	0.01-0.1		Not applicable Waste water treatment not permitted		
Cd	0.01-0.1				

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Cr	0.01-0.3	
	Hexavalent Cr [Cr(VI)]	0.01-0.1	
	Cu	0.05-0.5	
	Pb	0.05-0.3	
	Ni	0.05-1	
	Hg	1.0-10	
	Zn	0.1-2	
EMISSIONS FROM ACCIDENTS AND INCIDENTS			
21	Techniques to prevent or limit the environmental consequences of accidents and incidents, as part of the Accident Management Plan. Use <u>ALL</u> of the following:		
	a.	Protection measures – see examples	Currently compliant The operator has stated that protection measures are in place to prevent or minimise environmental consequences of accidents and incidents. Reference documents <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 9 Cenin Ltd Accident Management Plan</i> .
	b.	Management of incidental or accidental emissions	Currently compliant The operator has stated that processes to manage incidental or accidental emissions are in place. Reference documents <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 9 Cenin Ltd Accident Management Plan</i> .

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	c.	Incident/accident registration and assessment system – see examples	Currently compliant The operator has stated that an incident/accident registration and assessment system is in place. Reference documents <i>NRW BAT Review Further Section 61 responses</i> and <i>Appendix 9 Cenin Ltd Accident Management Plan</i>
MATERIAL EFFICIENCY			
22	Use materials efficiently by substituting materials with waste e.g. waste acids/alkalis for pH adjustment, fly ashes for binders		Currently compliant The operator has stated that by the nature of the permitted activity, materials efficiently used by substituting non-waste materials with waste. Reference documents Section 61 review FINAL and <i>S5 Response (Cenin to EA)</i> .
ENERGY EFFICIENCY			
23	Use energy efficiently by using both of the following techniques:		
	a.	Energy efficiency plan	Currently compliant The operator has confirmed that an energy efficiency plan in in place. Referenced documents: <i>email response to request for information received 14/12/2020</i> and <i>Cenin Plant usage of renewable energy</i> .
	b.	Energy balance record	Currently compliant The operator has confirmed that an energy balance record is in place. Referenced documents: <i>email response to request for information received 14/12/2020</i> and <i>Cenin Plant usage of renewable energy</i> .
REUSE OF PACKAGING			

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
24	Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)	Currently compliant The operator has stated that by the nature of the permitted activity, minimal quantities of waste are generated. Wherever possible, IBC's that have been used to store additives are returned to the supplier for re-use. See <i>NRW BAT Review Further Section 61 responses</i> .	
MECHANICAL TREATMENT OF WASTE (GENERAL BAT)			
25	Reduce emissions to air of dust, particulate-bound metals, PCDD/F and dioxin-like PCBs by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Cyclone – see S6.1	Not applicable Not a permitted treatment
	b.	Fabric filter – see S6.1	
	c.	Wet scrubbing – see S6.1	
	d.	Water injection into the shredder	
	BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm3) Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8		
	Dust	2.0-5.0	Not applicable Not a permitted treatment
MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING			
26	Improve overall environmental performance and prevent emissions due to accidents and incidents. Use BAT 14g <u>AND ALL</u> of the following techniques:		
	(a)	Detailed inspection procedure for baled waste before shredding	Not applicable

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	(b)	Remove dangerous items from waste inputs and dispose of them in a safe manner	Not a permitted treatment
	(c)	Treatment of containers accompanied by a declaration of cleanliness	
27	Prevent deflagrations and reduce emissions from deflagrations. Use technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.		
	a.	Deflagration management plan with reduction programme, incident review and response protocol	Not applicable Not a permitted treatment
	b.	Pressure relief dampers	
	c.	Pre-shredding (device)	
28	Use energy efficiently by keeping the shredder feed stable		
MECHANICAL TREATMENT OF WEEE CONTAINING VFCS AND/OR VHCS			
29	Techniques to prevent, or where not practicable reduce emissions of organic compounds to air. Apply BAT 14d <u>AND</u> BAT14h <u>AND</u> technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.		
	a.	Optimised removal and capture of refrigerants and oils	Not applicable Not a permitted treatment
	b.	Cryogenic condensation	
	c.	Adsorption	
	BAT-AELs for channelled TVOC and CFC emissions to air from treatment of WEEE containing VFCs and/or VHCs (mg/Nm3) Table 6.4. Monitoring requirements are outlined in BAT 8		
	TVOC	3.0-15	Not applicable Not a permitted treatment
	CFCs	0.5-10	
30	Prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs. Use <u>EITHER</u> of the following techniques:		
	a.	Inert atmosphere e.g. N2	Not applicable

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	b.	Forced ventilation	Not a permitted treatment
MECHANICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			
31	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Not a permitted treatment
	b.	Biofilter – see S6.1	
	c.	Thermal oxidation – see S6.1	
	d.	Wet scrubbing – see S6.1	
	BAT-AEL for channelled TVOC emissions to air from the mechanical treatment of waste with calorific value (mg/Nm3) Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8		
	TVOC	10.0-30.0	Not applicable Not a permitted treatment
MECHANICAL TREATMENT OF WEEE CONTAINING MERCURY			
32	Reduce mercury emissions to air by collecting them at source, sending them to abatement and carrying out adequate monitoring. This includes <u>ALL</u> of the following:		
	Equipment is enclosed, under negative pressure and connected to a LEV system		Not applicable Not a permitted treatment
	Waste gas treated using dedusting techniques – see examples – followed by adsorption on activated carbon		
	Monitoring of waste gas treatment efficiency		
	Mercury levels measured at least weekly within treatment and storage areas		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	BAT-AEL for channelled mercury (Hg) emissions to air from the mechanical treatment of WEEE containing mercury ($\mu\text{g}/\text{Nm}^3$) <i>Table 6.6. Monitoring requirements are outlined in BAT 8</i>	
	Hg	2.0-7.0 Not applicable Not a permitted treatment
BIOLOGICAL TREATMENT OF WASTE (GENERAL BAT)		
33	Reduce odour emissions and improve overall environmental performance by selecting the waste input (to ensure its suitability for biological treatment). See also BAT 2	Not applicable Not a permitted treatment
34	Reduce emissions to air of dust, organic compounds and odorous compounds (including H_2S & NH_3) by using one or a combination of the following techniques:	
	a.	Adsorption – see S6.1
	b.	Biofilter – see S6.1
	c.	Fabric filter – see S6.1.
	d.	Thermal oxidation – see S6.1
	e.	Wet scrubbing – see S6.1
	BAT-AEL for channelled NH_3, odour, dust and TVOC emissions to air from the biological treatment of waste (mg/Nm^3) (ouE/m^3) <i>Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8</i>	
	NH ₃	0.3-20
	Odour	200-1000
	Dust	2.0-5.0
	TVOC	5.0-40
		Not applicable Not a permitted treatment

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
35	Reduce the generation of waste water and reduce water usage by using <u>ALL</u> of the following:		
	a.	Segregation of water streams (see also BAT 19f)	Not applicable Not a permitted treatment as not a permitted treatment
	b.	Water recirculation	
	c.	Minimisation of the generation of leachate	
BIOLOGICAL TREATMENT OF WASTE: AEROBIC METHODS			
36	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:		
	Waste input characteristics e.g. C to N ratio, particle size		Not applicable Not a permitted treatment
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)		
	Aeration of the windrow		
	Windrow porosity, height and width		
37	Reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps. Use <u>ONE OR BOTH</u> of the following techniques:		
	a.	Use of semi-permeable membrane covers	Not applicable Not a permitted treatment
	b.	Adaptation of operations to the meteorological conditions	
BIOLOGICAL TREATMENT OF WASTE: ANAEROBIC METHODS			
38	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:		
	Implement a manual and/or automatic monitoring system to:		
	Ensure a stable digester operation		Not applicable

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Minimise operational difficulties and associated odour emissions		Not a permitted treatment
	Provide sufficient early warning of system failures		
	Windrow porosity, height and width		
	Monitoring and/or control of key waste and process parameters – examples below:		
	pH and alkalinity of the digester feed		Not applicable Not a permitted treatment
	Digester operating temperature		
	Hydraulic and organic loading rates of the digester feed		
	Volatile fatty acids and NH3 concentrations within digester & digestate		
	Biogas quantity, composition (e.g. H2S) and pressure		
	Liquid and foam levels in the digester		
MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE			
39	Reduce emissions to air. Generally applicable to new plants, existing plants may have layout constraints. Use BOTH of the following techniques:		
	a.	Segregation of the waste gas streams (refer to inventory described in BAT 3)	Not applicable Not a permitted treatment
	b.	Recirculation of waste gas. Waste gas treatment is described in BAT 34 and recirculation in BAT 35.	
PHYSICO-CHEMICAL TREATMENT OF SOLID AND/OR PASTY WASTE			
40	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Monitoring the waste input	
	Content of organics, oxidising agents, metals, salts, odorous compounds	Currently compliant
	H2 formation potential upon mixing of flue-gas treatment residues/ashes with water	The operator has confirmed that waste input is monitored as part of the waste pre-acceptance and acceptance procedures Referenced document: <i>email response to request for information received 14/12/2020</i>
41	Reduce emissions to air of dust, organic compounds and NH3 by applying BAT 14d AND using one or a combination of the following techniques:	
	a.	Adsorption – see S6.1 Not applicable Method not used
	b.	Biofilter – see S6.1 Not applicable Method not used
	c.	Fabric filter – see S6.1. Currently compliant The operator has confirmed that fabric filters are used with a reverse jet cleaning system Referenced document: <i>email response to request for information received 14/12/2020</i>
	d.	Wet scrubbing – see S6.1 Not applicable Method not used
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the physico-chemical treatment of solid and/or pasty waste (mg/Nm3) <i>Table 6.8. Monitoring requirements are outlined in BAT 8</i>	
	Dust	2.0-5.0 Currently compliant The permit contains a particulate matter emission limit, which under BAT 41 is reducing to 5 mg/Nm3 which will become effective from 17th August 2022. The operator has confirmed that they can meet the BAT AEL. This reduced BAT AEL has been included within the permit. Referenced documents: <i>email response to request for information received 14/12/2020 and BAT 41 Cenin Ltd Stack emissions 2020 Averages - Daily, Monthly</i>

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
RE-REFINING OF WASTE OIL			
42	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Chlorinated compounds e.g. solvents or PCBs	Not applicable Not a permitted treatment	
43	Reduce quantity of waste sent for disposal by using <u>ONE OR BOTH</u> of the following techniques:		
	a.	Material recovery e.g. organic residues in asphalt products	Not applicable Not a permitted treatment
	b.	Energy recovery	
44	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Not a permitted treatment
	b.	Thermal oxidation – see S6.1	
	c.	Wet scrubbing – see S6.1	
	The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies. Monitoring requirements are outlined in BAT 8		
PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			
45	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Not a permitted treatment
	b.	Cryogenic condensation – see S6.1	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	c.	Thermal oxidation – see S6.1	
	d.	Wet scrubbing – see S6.1	
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i> <i>Monitoring requirements are outlined in BAT 8</i>		
REGENERATION OF SPENT SOLVENTS			
46	Improve overall environmental performance by using ONE OR BOTH of the following techniques:		
	a.	Material recovery (by evaporation from distillation residues)	Not applicable
	b.	Energy recovery e.g. using distillation residues	Not a permitted treatment
47	Reduce emissions to air of organic compounds by applying BAT 14d AND using a combination of the following techniques:		
	a.	Recirculation of process off-gases in a steam boiler. Avoid generating PCBs and/or PCDD/Fs	Not applicable Not a permitted treatment
	b.	Adsorption – see S6.1	
	c.	Thermal oxidation – see S6.1. Avoid generating PCBs and/or PCDD/Fs	
	d.	Condensation or cryogenic condensation	
	e.	Wet scrubbing – see S6.1	
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i> <i>Monitoring requirements are outlined in BAT 8</i>		
BAT-AEL FOR EMISSIONS OF ORGANIC COMPOUNDS TO AIR – SECTION 4.5 (RE-REFINING OF WASTE OIL)			

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
(PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CV) (REGENERATION OF SPENT SOLVENTS)			
	BAT-AEL for channelled TVOC emissions to air from the re-refining of waste oil, physico-chemical treatment of waste with calorific value and regeneration of spent solvents (mg/Nm3) Table 6.9 and its supporting note. Monitoring requirements are outlined in BAT 8		
TVOC	5.0-30	Not applicable Not a permitted treatment	
THERMAL TREATMENT OF SPENT ACTIVATED CARBON, WASTE CATALYSTS AND EXCAVATED CONTAMINATED SOIL			
48	Improve overall environmental performance by using <u>ALL</u> of the following techniques:		
	a.	Heat recovery from the furnace off-gas e.g. for preheating combustion air or steam generation	Not applicable Not a permitted treatment
	b.	Indirectly fired furnace i.e. avoids contact between the furnace contents and the burner flue-gases. Note applicability constraints.	
	c.	Process-integrated techniques to reduce emissions to air – see examples	
49	Reduce emissions to air of HCl, HF, dust and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Cyclone – see S6.1	Not applicable Not a permitted treatment
	b.	Electrostatic precipitator (ESP) – see S6.1	
	c.	Fabric filter – see S6.1	
	d.	Wet scrubbing – see S6.1	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	e.	Adsorption – see S6.1	
	f.	Condensation – see S6.1	
	g.	Thermal oxidation – see S6.1	
	Note supporting text for BAT 49g (thermal oxidation) Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
WATER WASHING OF EXCAVATED CONTAMINATED SOIL			
50	Reduce emissions to air of dust and organic compounds from the storage, handling and washing steps by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Not a permitted treatment
	b.	Fabric filter – see S6.1	
	c.	Wet scrubbing – see S6.1	
Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.			
Decontamination of equipment containing PCBs			
51	Reduce emissions to air of PCBs and organic compounds and improve overall environmental performance by using <u>ALL</u> of the following techniques:		
	a.	Coating of the storage and treatment areas – see examples	Not applicable Not a permitted treatment
	b.	Implementation of staff access rules to prevent dispersion of contamination – see examples	
	c.	Optimised equipment cleaning and drainage – see examples	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	d.	Control and monitoring of emission to air – see examples	
	e.	Disposal of waste treatment residues – see examples	
	f.	Recovery of solvent when solvent washing is used	
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
TREATMENT OF WATER-BASED LIQUID WASTE			
52	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Bioeliminability e.g. BOD, BOD-COD ratio, Zahn-Wellens test, biological inhibition potential		Not applicable
	Feasibility of emulsion breaking e.g. lab testing		Not a permitted treatment
53	Reduce emissions to air of HCl, NH3 and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Not a permitted treatment
	b.	Biofilter – see S6.1	
	c.	Thermal oxidation – see S6.1.	
	d.	Wet scrubbing – see S6.1	
	BAT-AELs for channelled HCl and TVOC emissions to air from the treatment of water-based liquid waste (mg/Nm3)		
	Table 6.10 and its supporting notes. Monitoring requirements are outlined in BAT 8		
	HCl	1.0-5.0	Not applicable
TVOC	3.0-20	Not a permitted treatment	

Annex 2: Consultation on the draft decision where an Article 15(4) derogation has been applied

No derogation has been applied for.