

This form will report compliance with your permit as determined by an NRW officer

Site	The Research Centre				Permit Ref	SP3936TL (as amended)		
Operator/ Permit holder	Cenin Ltd							
Date	16 April 2015				Time in	10.00	Out	12.00
What parts of the permit were assessed	See below							
Assessment	EPR - inspection	EPR Activity:	Installation	X	Waste Op		Water Discharge	
Recipient's name/position	Wyndham Abbott / Quality Control Co-ordinator							
Officers names	P Gibson, D Cowie, C Thomas				Date issued		28 October 2015	

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our [Compliance Classification Scheme](#) (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your [local office](#).

Permit Conditions and Compliance Summary			Condition(s) breached
a) Permitted activities	1. Specified by permit	A	
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	N	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	N	
	3. Materials acceptance	A	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	N	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	A	
f) Amenity	1. Odour	N	
	2. Noise	N	
	3. Dust/fibres/particulates	N	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	A	
	3. Maintenance records	N	
	4. Reporting & notification	N	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed or assessed in part (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

Site description

Cenin Ltd produce cement replacement products using waste materials as a primary ingredient. Permitted wastes and other raw materials are milled to a specific particle size and weighed. This material is then blended with aggregate, blast furnace slag 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. On completion the combined composition meets BS: EN197 Part 1 (Composition, specifications and conformity criteria for common cement).

Waste types accepted at Cenin include fly ash powders from power generation plants burning paper sludge, wood and plastics and air pollution control residues. The fly ash is classified as hazardous waste because it has a lime content that is greater than 10%. Cenin's cement replacement product generates 95% less CO₂ emissions than standard Portland cement production.

Purpose of visit/assessment

- a) to review the range of wastes and raw materials used at Cenin to make cement replacement products
- b) to discuss and review the use of paper sludge ash (PSA) in Cenin's products
- c) to review progress with the development of 'CenBed' – a proprietary animal bedding replacement produced from PSA

Person(s) present (Office based)

Cenin Ltd	Gary Hunt	NRW	Paul Gibson
	Martyn Popham		Doug Cowie
	Wyndham Abbott		Chris Thomas

Wastes and raw materials

Cenin uses a number of different waste types to manufacture cement replacement products – the company's core business. These are listed in Schedule 2 of Cenin's permit.

Natural Resources Wales (NRW) has received an enquiry from the Environment Agency (EA) regarding ash from biomass plants burning reprocessed waste wood. The EA has been approached by Cenin regarding the recovery of wood ash from biomass plants in Wales on agricultural land in England.

Cenin confirmed it has looked at using ash from biomass plants in England burning straw only. Ash from plants burning reprocessed waste wood is less attractive because the ash consistency is not suited to Cenin's manufacturing process. On this basis NRW is satisfied that Cenin's current proposals would fall under the Environment Agency's remit and the company should continue to liaise with the EA as required. Cenin needs to consult the appropriate environmental regulator depending on where the ash is generated and where it is proposed to be used.

Paper sludge ash (PSA)

2015 has been a difficult year for the UK Paper and Pulp Sector. Aylesford Paper Mill in Kent closed in early 2015 and UPM Shotton in North Wales has reduced production. Cenin uses PSA from UK paper mills to manufacture some of its products. Cenin has been able to maintain a stable supply of Pulverised Fuel Ash (PFA) – another of its key ingredients – and therefore the reduced PSA supply has not impacted its operations as much as it could have.

Cenin mechanically separate waste PSA into different components/fractions; the finer particle grades are well suited to their cement replacement products. The coarser fractions are being used to make products like CenBed (see below), although it may also be possible to make aggregate type products from the larger particles. We viewed samples of the different mechanically separated PSA fractions. The separation process has led to process improvements using other materials e.g. PFA.

The PSA received at Cenin is consigned and classified as hazardous waste as it has a high pH. Each consignment is subject to testing and WM3 (hazardous waste) assessment by the waste producer and Cenin also tests it when it is received at Stormy Down. The chemical composition of the PSA is crucial to the effectiveness of Cenin's process and the company has previously declined to take PSA that contains too much 'woody' ash.

CenBed animal bedding replacement

NRW has been in contact with Cenin regarding the development of a proprietary animal bedding replacement product called CenBed. Cenin mechanically separates the coarse fractions of PSA to produce a friable, absorbent material for livestock cubicle bedding. Cenin manufactures CenBed to a product specification, believes it has met End of Waste (EoW) and is trialling its use at a number of farms in Wales on a proof-of-concept basis. It was noted that the current supply of PSA available to produce CenBed is quite limited due to the ongoing issues affecting the UK Paper and Pulp sector.

An operator who claims EoW for a material should be able to demonstrate it has met the three limbs of the End of Waste test:

1. the waste derived material must be distinct and marketable; and
2. can be used in exactly the same way as non-waste; and
3. with no worse environmental effects when compared to the ordinary material.

Businesses and other organisations should refer to the WG and DEFRA 'Legal Definition of waste' guidance in order to determine if their material has ceased to be waste. The Environment Agency has produced an '[IsItWaste](#)' electronic tool to allow businesses to assess and make informed decisions about whether their waste-derived material is a by-product, achieves end of waste criteria or remains a waste.

End of Waste is a voluntary process and there is no requirement for NRW to assess an operator's EoW submission or make a decision on a particular material. We may however review an operator's EoW assessment periodically, or challenge it where we believe there is a risk of pollution or non-compliance with environmental legislation.

NRW has reviewed the production and use of CenBed and requires further information in relation to this material:

1. An independent veterinary opinion on the use of CenBed as an animal bedding substitute. We would consider the view of an Animal and Plant Health Agency (APHA) veterinary officer and/or an independent registered veterinary practitioner to be acceptable.
2. A Materials Safety Data Sheet (MSDS) for CenBed.
3. It is understood that waste Paper Sludge Ash (PSA) accepted at Cenin is consigned as hazardous waste. Please confirm:
 - a. why the waste PSA accepted at Cenin is classified as hazardous i.e. what hazard criteria are used
 - b. what List of Waste Regulations (LoW) code (also known as a European Waste Catalogue code) is used to classify the waste PSA accepted at Cenin
4. Laboratory analysis results (per batch of waste delivered to Cenin) for waste PSA used to make CenBed. Please include data for pH, aluminium and other Potentially Toxic Elements (PTEs)*.
5. Laboratory analysis results (per batch of CenBed delivered to final users) for CenBed bedding substitute as manufactured. Please include data for pH, aluminium and other PTEs.
6. Soil test results (including PTEs) and assessment by a qualified agronomist for the application of used CenBed to agricultural land. Please also include a set of soil test results for the same agricultural land obtained before the application of used CenBed material. It is appreciated that these results may be limited to key nutrients (N, P & K) and pH and may not include PTE analysis.

*It is recommended that Cenin considers the values for PTEs as defined in Defra's [Code of Practice For Agriculture Use Of Sewage Sludge](#)

Since NRW's inspection on 16/4/2015, Cenin has responded to our request for information and we have carried out a further review of CenBed. Our findings will be confirmed in a separate CAR report.

Waste acceptance permit condition

Cenin has highlighted an ambiguity relating to Section 2.3 of the permit. Condition 2.3.2 states that:

Waste shall only be accepted if: (a) it is a type and quantity listed in schedule 2 table S2.2

For permit SP3936TL, Schedule 2 has been divided into two tables to distinguish between permitted wastes for cement production (S2.1) and permitted wastes for blending only in cement production (S2.2). The Environment Agency Wales (EAW) Decision Document contains an explanation for the distinction:

'We have included two waste types in a separate table (Table S2.2) for blending only. This is because the operator has not demonstrated that the milling of these wastes, and subsequent emissions to air via the post abatement stack, would not cause unacceptable emissions. As the operator only intends to include them at the blending stage anyway, we have therefore included them in the separate Table S2.2.'

For the majority of EPR permits, Schedule 2 only contains one table for wastes accepted. In this case it would appear an administrative error has been made and the standard wording of Condition 2.3.2 has not been modified to reflect the EAW Decision Document. NRW considers that Cenin is permitted to accept all the waste types listed in Schedule 2 Table S2.1 and S2.2 for the treatment purposes defined in each table.

The error may be corrected as part of any future permit variation, or when the permit is reviewed as part of the Waste Treatment Sector Review of Best Available Techniques (BAT) which is due in 2016-17.

Other matters

NRW is undergoing some organisational restructuring and in South West Wales this means the creation of separate Industry Regulation and Waste Regulation Teams. Cenin is likely to become part of the South West Wales Waste Regulation Team's portfolio of sites. NRW's current regulating officer (Doug Cowie) and the likely future regulating officer (Chris Thomas) will keep Cenin advised of these changes.

Cenin has obtained planning permission to construct a 1.5MW wind turbine at The Research Centre. This turbine will reduce Cenin's energy costs and provide a sustainable supply of electricity for the installation, which already has a number of photovoltaic (PV) panel units in operation. Cenin may even be able to export power to the grid depending on the turbine's performance.

Cenin and NRW are aware of outline plans to create a 2.4MW anaerobic digestion (AD) plant at Stormy Down. It is understood that the proposed plant will accept municipal food waste from nearby local authorities. If such a development is authorised, it may present further energy-saving opportunities for Cenin e.g. sustainably-generated electricity, heat recovery.

[END OF SECTION 2]

	EPR Compliance Assessment Report	Report ID: 05883	
This form will report non-compliance with your permit as determined by an NRW officer			
Site	The Research Centre	Permit	SP3936TL (as amended)
Operator/ Permit	Cenin Ltd	Date	28 October 2015

Section 3- Enforcement Response		Only one of the boxes below should be ticked
You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.		
Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.		n/a
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.		n/a
We will now consider what enforcement action is appropriate and notify you, referencing this form.		n/a

Section 4- Action(s)			
Where a non - compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			
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Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General Information

Data protection notice

The information on this form will be processed by Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official **Complaints** and **Commendations** procedure, phone our general enquiry number **0300 065 3000** (Mon to Fri **08.00–18.00**) and ask for the **Customer Contact team** or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on **(0845) 601 0987**.