

Quality Protocol

Poultry Litter Ash

End of waste criteria for the production and use of treated ash
from the incineration of poultry litter, feathers and straw



This Quality Protocol was funded by Defra, the Welsh Government (WG) and the Northern Ireland Environment Agency (NIEA) as a business resource efficiency activity. It was developed by the Environment Agency and WRAP (Waste & Resources Action Programme) in consultation with Defra, WG, industry and other regulatory stakeholders. The Quality Protocol is applicable in England, Wales and Northern Ireland. It sets out the end of waste criteria for the production and use of poultry litter ash from the combustion of poultry litter, feathers and straw.

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Foreword

Background

Uncertainty over the point at which waste has been fully recovered and ceases to be waste within the meaning of Article 3(1) of the EU Waste Framework Directive (2008/98/EC) has inhibited the development and marketing of materials produced from waste which could otherwise be used beneficially without damaging human health and the environment. In some cases, this uncertainty has also inhibited the recovery and recycling of waste and its diversion from landfill.

Interpretation of EU legislation is ultimately a matter for the Courts and there is now a substantial body of case law on the interpretation of the definition of waste in Article 3(1) of the Waste Framework Directive. Drawing on the principles established in this case law, it is possible to identify the point at which certain wastes cease to be waste and thus when the Waste Framework Directive's waste management controls no longer apply. This identification is the purpose of the Waste Protocols Project.

What is a Quality Protocol?

A Quality Protocol sets out end of waste criteria for the production and use of a product from a specific waste type. Compliance with these criteria is considered sufficient to ensure that the fully recovered product may be used without undermining the effectiveness of the Waste Framework Directive and therefore without the need for waste management controls.

In addition, the Quality Protocol indicates how compliance may be demonstrated and points to good practice for the use of the fully recovered product. The Quality Protocol further aims to provide increased market confidence in the quality of products made from waste and so encourage greater recovery and recycling.

1. Introduction

Definitions of terms that appear in *italics* when they are first used in this Quality Protocol are given in Appendix A.

1.1 What is this Quality Protocol?

- 1.1.1 This Quality Protocol has been developed by the *Environment Agency*, the *Northern Ireland Environment Agency (NIEA)* and *WRAP (Waste & Resources Action Programme)* in consultation with industry and other regulatory stakeholders. It is applicable in England, Wales and Northern Ireland.
- 1.1.2 The Quality Protocol sets out end of waste criteria for the production and use of *poultry litter ash (PLA)* from poultry litter, feathers and straw. If these criteria are met, the resulting outputs will normally be regarded as having been fully recovered and to have ceased to be waste.
- 1.1.3 *Producers* are not obliged to comply with the Quality Protocol. If they do not, the PLA will normally be considered to be waste and *waste management controls* will apply to its storage, handling, transportation and use.¹
- 1.1.4 This Quality Protocol does not affect the obligation of producers to hold an *environmental permit* (in Northern Ireland a *waste management licence* or a *Pollution Prevention and Control (PPC)* permit is required) and to comply with its conditions when processing and storing waste.
- 1.1.5 Producers should note that producing a fully recovered product may mean they must meet further legal obligations, e.g. REACH registration.²

1.2 The purpose of the Quality Protocol

- 1.2.1 The Quality Protocol has four main purposes:
- i. clarifying the point at which waste management controls are no longer required;
 - ii. providing *users* with confidence that the PLA they purchase conforms to an *approved industry standard*;
 - iii. providing users with confidence that the PLA is suitable for use in *designated market sector(s)* including by conforming with the industry standard; and
 - iv. protecting human health and the environment (including soil).
- In addition, the Quality Protocol describes acceptable good practice for the transportation, storage and use of PLA (see Appendix C).

1.3 Complying with the Quality Protocol

- 1.3.1 PLA will normally be regarded as having ceased to be waste, and therefore no longer subject to waste management controls provided it:
- requires no further processing before use, that is it meets the requirements of the industry standard including controls on inputs and any additional specification specified by the customer (see Section 2);
 - is destined for use as an agricultural fertiliser as described in Section 4.

¹ The material will remain a waste unless it has been demonstrated to have been completely recovered on a case-by-case basis having regard to the aims of the Waste Framework Directive and the need to ensure the Directive's effectiveness is not undermined.

² Waste is exempt from REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) (Regulation (EC) No 1907/2006) as it is covered by separate waste management controls. However, once waste has been fully recovered and ceases to be waste, waste management controls cease to apply and the REACH exemption due to the material's status as waste will no longer apply. Further information on REACH is available from the REACH UK Competent Authority website: www.hse.gov.uk/reach or Helpdesk on 0845 408 9575 or email ukreacha@hse.gov.uk

- 1.3.2 Producers / importers must demonstrate that these criteria have been met. They should do this in the ways set out in Section 3.
- 1.3.3 This Quality Protocol will be adopted as a technical regulation under *Technical Standards and Regulations Directive (98/34/EC)* as amended.³ We recognise that there may be codes of practice or standards which apply in the *European Economic Area (EEA)* States other than the UK setting out requirements for the production and use of PLA. We accept that PLA may cease to be waste provided it has been produced in compliance with:
- a relevant standard or code of practice of a national standards body or equivalent body of any EEA State; or
 - any relevant international standard recognised for use in any EEA State; or
 - any relevant technical regulation with mandatory or de facto mandatory application for marketing or use in any EEA State.
- These must give levels of product performance and protection of human health and the environment which are equivalent to those required by this Quality Protocol.
- 1.3.4 An outline of the main stages and control mechanisms of the Quality Protocol is presented in Figure 1. These are described further in Sections 2 and 3.
- When Quality Protocol compliant material may become waste
- 1.3.5 Producers and users of PLA should note that, even if the Quality Protocol is complied with, the material will become waste again and subject to waste management controls if it is at any stage it is discarded or there is an intention or requirement to discard it, for example if it is:
- disposed of; or
 - stored indefinitely with little prospect of being used.
- 1.3.6 In addition, if Quality Protocol compliant material is mixed with waste materials, the resulting mix will be considered to be a waste and subject to waste management controls. If Quality Protocol compliant material is mixed with non-waste materials, the resulting mix will not, as a result of this, be waste.

1.4 Failure to comply with the Quality Protocol

- 1.4.1 Where this Quality Protocol is not complied with, for example the PLA does not meet the requirements of the industry standard or the producer / importer cannot demonstrate evidence of compliance, the PLA produced will normally be considered to be waste. In such circumstances, the producer/importer or user must comply with the appropriate waste management controls⁴ for the transportation, storage and use of the PLA and may be committing an offence if they do not do so.
- 1.4.2 Detailed guidance on waste management controls can be obtained from the Environment Agency's National Customer Contact Centre on 08708 506 506, from its website (<http://www.environment-agency.gov.uk/subjects/waste/>). In Northern Ireland guidance can be obtained from NIEA's website (<http://www.ni-environment.gov.uk/waste-home/authorisation.htm>).

³ The Technical Standards and Regulations Directive 98/34/EC seeks to ensure the transparency of technical regulations and is intended to help avoid the creation of new technical barriers to trade within the European Community.

⁴ For example, in compliance with Article 11 of the Waste Framework Directive, the user might need to obtain a permit from the Environment Agency (or in Northern Ireland a waste management licence or PPC permit from the NIEA).

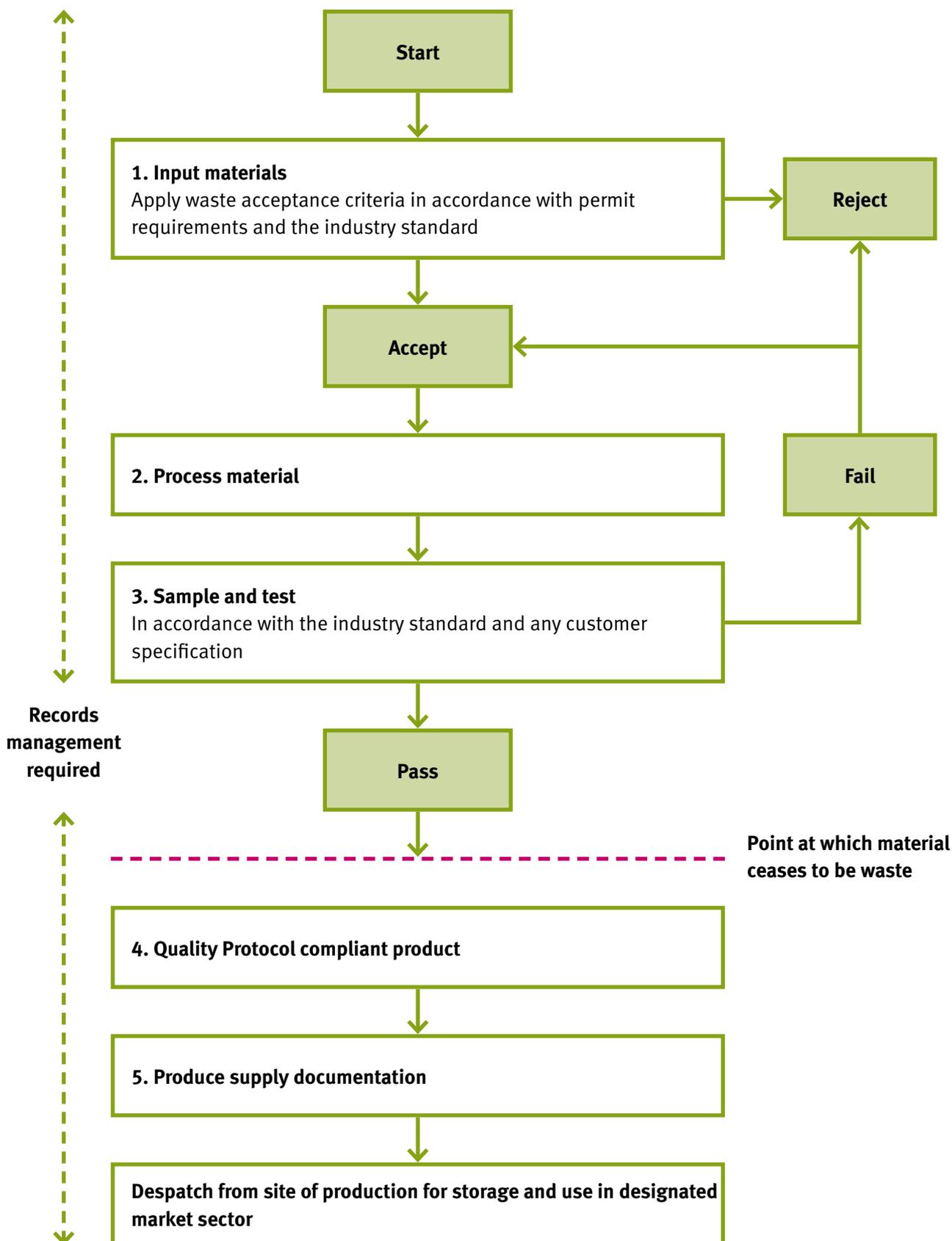
1.5 Updating the Quality Protocol

- 1.5.1 We plan to review and update this document every two years from the date of its final publication.
- 1.5.2 However, this document may be subject to change before these review dates. Triggers for such a change could include:
- pollution incidents;
 - development in scientific understanding;
 - a change in the market;
 - a change in legislation or case law;
 - a change to the agreed industry standard; and
 - a shift in the chemical composition or physical properties of the ash.
- 1.5.3 This Quality Protocol may be withdrawn if it becomes apparent that it is generally being misapplied and/or misused.

1.6 Importing and exporting Quality Protocol compliant material

- 1.6.1 Producers intending to export material that complies with this Quality Protocol should be aware that, although the material may cease to be waste in England, Wales and Northern Ireland, the country of destination may take a different view. If the competent authority in the country of destination considers the material to be waste, the shipment will be subject to the controls set out in the Waste Shipment Regulation (EC No. 1013/2006).
- 1.6.2 Those intending to import Quality Protocol compliant material into England, Wales or Northern Ireland should be aware that, if the country of despatch regards the material as waste, the controls set out in the Waste Shipment Regulation will apply to the shipment. This is the case even though the material may be regarded as having ceased to be waste in England, Wales and Northern Ireland.
- 1.6.3 Before importing or exporting such material it is prudent to check with the competent authority for the country of despatch or destination. A list of the competent authorities can be found at:
<http://ec.europa.eu/environment/waste/shipments/lists.htm>

Figure 1: Main stages and control mechanisms of the Quality Protocol



2. Producing PLA

2.1 Regulating the production process

2.1.1 The process of turning PLA into product is classified as a waste recovery operation and is subject to the waste management controls in the Waste Framework Directive and domestic legislation. This Quality Protocol does not affect the obligation on producers to hold an environmental permit (or in Northern Ireland a waste management licence or a PPC permit is required) that authorises the storage and processing of PLA and to comply with its conditions.

2.2 Criteria for producing PLA that has ceased to be waste

2.2.1 To comply with this Quality Protocol, PLA must require no further processing before use. To do this the criteria outlined in Sections 2.3 to 2.5 must be met. In addition, the material must be destined for use in the designated market sector described in Section 4.

2.3 Input materials

2.3.1 Poultry litter feedstocks (type and percentage contribution are detailed within Appendix B) classified under the *European Waste Catalogue (EWC)* are the only acceptable input materials.

2.4 Processed in accordance with the approved standard

2.4.1 The producer must comply with all the requirements of an approved standard. Appendix B details the approved industry standard agreed for PLA at the time of publishing this Quality Protocol.

2.4.2 The PLA standard, summarised in Appendix B, is subject to review and producers should ensure they comply with the latest version. Any changes to the agreed standard may trigger a review of the Quality Protocol (see Section 1.5.2).

2.5 Meets any additional customer specification

2.5.1 In addition to the requirements set out in Sections 2.3 and 2.4, a customer may also specify additional requirements for the PLA to meet.

3. Providing evidence of compliance with the Quality Protocol

- 3.1 Producers / importers must be able to demonstrate compliance with all the requirements of this Quality Protocol.
- 3.2 Some of the records specified below may already be required as part of the producer's environmental permit conditions (waste management licence or PPC permit conditions if in Northern Ireland). This Quality Protocol does not affect the obligations on producers to comply with environmental permit conditions (waste management licence or PPC permit conditions if in Northern Ireland).

3.3 Records management

- 3.3.1 To be able to demonstrate compliance with the Quality Protocol, producers / importers must maintain copies of supply documentation provided to the customer for each sale or supply of fully processed poultry litter ash.⁵
- 3.3.2 This documentation must include:
- date of supply;
 - customer's name, contact details and nature of business;
 - name and contact details of the producer, including the address of the site of production;
 - quantity supplied by weight/volume;
 - a statement that the fully processed poultry litter ash was produced in compliance with this Quality Protocol ;
 - copies of all certificates of analysis relating to the products that have been sold or access to them if requested;
 - a batch identification number(s) that enables chemical analysis to be linked to a particular load; and
 - confirmation that information on good practice relating to the use of fully processed poultry litter ash (as set out in Appendix C) has been supplied to the customer.
- 3.3.3 A supply document template that producers may choose to use or adapt is contained in Appendix D.
- 3.3.4 These requirements are additional to any statutory record-keeping obligations. However, some records may be used to fulfil both a regulatory obligation and evidence of compliance with this Quality Protocol.
- 3.3.5 For the purposes of this Quality Protocol the producer or importer must:
- keep and retain records specified in section 3.3.2 for a minimum of six years; and
 - make them available for inspection by the regulator (if requested).

⁵ Supply documentation is not required for each delivery, only for each distinct purchase.

4. Storage and use of PLA

4.1 As for all fertilisers, users of PLA should:

- take full account of any environmental impact resulting from its use; and
- ensure that its use does not compromise the future sustainable use of water resources or the integrity of designated conservation areas.

4.2 Storage of PLA

- 4.2.1 PLA produced in accordance with this Quality Protocol, which is therefore regarded as having ceased to be waste, may need to be temporarily stored either in an off-site storage facility before delivery to the customer or at the customer's premises. The materials will not be waste at that point so waste management controls will not apply.
- 4.2.2 Producers, distributors and users should follow good practice for the storage of fertilisers, details of which are included within Appendix C.
- 4.2.3 If it appears that the material is being stored indefinitely with no certainty of use, the material will revert to being a waste and waste management controls will apply as specified in Section 1.4.

4.3 Use of PLA

- 4.3.1 This Quality Protocol applies only to one designated market sector which is the use of PLA as a *PK fertiliser* in agriculture.
- 4.3.2 Users of PLA should follow all relevant current agricultural good practice in order to ensure that:
- it does not pose a risk to the environment or human health; and
 - its use does not compromise the future sustainable use of the soil to which it is applied.
- 4.3.3 Details of good practice for the testing, record-keeping (including responsibility for record-keeping) and use of PLA in relation to agriculture are given in Appendix C.
- 4.3.4 The PLA will not be compliant with this Protocol, and therefore is likely to have become a waste again, if it is used for any other purpose other than as a PK fertiliser in agriculture.

Appendix A Definitions

In this Quality Protocol, the words and phrases below have the following meanings.

Approved industry standard: The industry standard listed in Appendix B which has been approved for inclusion in this Quality Protocol. This standard outlines quality control measures and environmental limits for the production and blending of PLA to ensure quality and consistency.

Biomass: Biomass, a renewable energy source, is biological material derived from living, or recently living organisms, such as wood, waste, (hydrogen) gas, and alcohol fuels. Biomass is commonly plant matter grown to generate electricity or produce heat.

Defra: Defra is the UK government department responsible for policy and regulations on the environment, food and rural affairs.

Designated market sector(s): The sector(s) listed in Section 4 in which this Quality Protocol enables PLA to be used, namely as an agricultural fertiliser.

Distributors: Distributors purchase PLA from the producer/importer taking possession of the product and then sell on directly to farmers. Many farmers traditionally buy their seeds, fertilisers and crop chemicals through agricultural agents or distributors.

European Economic Area (EEA): The EEA States consist of the members of the EU (Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK) together with Iceland, Liechtenstein and Norway. The crown dependencies of Jersey, Guernsey and the Isle of Man are not part of the UK or EU and businesses registered there are subject to different licensing legislation.

Environment Agency: The Environment Agency is the leading public body for protecting and improving the environment in England and Wales. Its job is to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Environmental permit: Environmental permits issued or exemptions registered under the Environmental Permitting (England and Wales) Regulations 2010.

European Waste Catalogue (EWC): European Waste Catalogue (EWC 2002 and amendments) – comprehensive list of waste codes and descriptions based on waste source and type.

Feedstocks: Specified bulk raw material/wastes used as the principal inputs to the biomass power stations.

Material safety data sheet (MSDS): A document containing health and safety information on a hazardous product. It includes the chemical and common names of all ingredients that have been determined to be health hazards if they constitute 1 per cent or greater of the product's composition (0.1 per cent for carcinogens). Also includes precautionary guidelines and emergency procedures for handling the product.

Meat and bone meal (MBM) Cat 3: Category 3 MBM is made from unsellable parts of healthy animals and is a product of the rendering industry. It is typically about 50% protein (which includes feathers), 35% ash, 8-12% fat, and 4-7% moisture.

Northern Ireland Environment Agency (NIEA): Northern Ireland Environment Agency-NIEA is the leading public body in Northern Ireland responsible for protecting, conserving and promoting the natural environment and built heritage in Northern Ireland.

PK fertiliser: A fertiliser rich in phosphorus (P) and potassium (K), but containing little or no nitrogen (N).

Poultry litter ash (PLA): PLA is produced following the combustion of primarily:

- poultry litter inc feathers (chicken and turkey) (minimum 58 per cent);
- straw (wheat, barley, rape, linseed and miscanthus);
- forestry waste (woodchip);
- horse bedding (sawdust⁶); and
- meat and bone meal (MBM) and pet food derived from Category 3 animal by-products.

The only other materials permitted to be combusted under this definition are high calorific alternative fuels such as sunflower husks and linseed, contributing a maximum of 10 per cent.

Relative contributions are restricted as detailed within the Industry Standard (see Appendix B)

The combustion of these materials results in the production of three ash streams, i.e. bottom ash, fly ash and bag ash. The ashes are blended to a given specification to produce PLA.

Bottom ash is ash that falls through to the bottom of the furnace during the combustion process. The other ash streams (collectively known as air pollution control residues) are typically captured at two locations. Some of the exhaust flue ash is captured by the cyclones downstream of the combustion chamber and is known as **fly ash**. Ash is also captured within the bag house filters. These filters are used to abate the potential release of contaminants to the atmosphere via the stack. This ash is commonly referred to as **bag ash**.

PPC permit (Northern Ireland): A permit issued under the Pollution Prevention and Control Regulations (Northern Ireland) 2003 SR46. Establishes a pollution control regime for certain installations or mobile plants and includes combustion activities.

Producers: The operator(s) undertaking PLA processing.

Primary nutrient: The elements nitrogen, phosphorus and potassium only – as per the definition within the REGULATION (EC) No 2003/2003 relating to fertiliser

Quality Protocol: A Quality Protocol sets out criteria for the production of a product from a specific waste type. Compliance with these criteria is considered sufficient to ensure that the recovered product can be regarded as having ceased to be waste and that therefore no longer subject to waste management controls. In addition, the Quality Protocol indicates how compliance may be demonstrated and points to good practice for the use of the recovered product.

REACH: REACH stands for the Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation). This Regulation aims to control and limit the risk to human health and the environment from the use of chemical substances and preparations in materials that are available to purchase on the open European market. It also establishes a European Chemicals Agency.

Supply documentation: Records of who the PLA is supplied to, including the documentation accompanying each load or consignment of PLA. It will include details of the standard to which the product complies and that the product was produced in conformance with this Quality Protocol.

Technical Standards and Regulations Directive 98/34/EC: Seeks to ensure the transparency of technical regulations and is intended to help avoid the creation of new technical barriers to trade within the European Community.

User(s): User means farmers, growers, contractors and all those organisations or individuals responsible for the end use of PLA.

Waste management controls: Controls under legislation that govern the treatment, handling, containment, transportation and storage of waste.

Waste management Licence or exemption (Northern Ireland): An authorisation issued in Northern Ireland under the Waste Management Licensing Regulations (Northern Ireland) 2003 for the deposit, disposal and treatment of waste.

Waste Management Licensing Regulations (Northern Ireland) 2003: Provides for applications in Northern Ireland for waste management licenses, which authorise the deposit, disposal and treatment of controlled waste. Includes exemptions from waste management licensing.

WRAP (Waste and Resources Action Programme): WRAP's vision is a world without waste, where resources are used sustainably. It works with businesses and individuals to help them reap the benefits of reducing waste, develop sustainable products and use resources in an efficient way.

Appendix B Approved PLA industry standard

B1 This standard focuses on those materials combusted in the first instance to produce the ash, as well as compositional limits, sampling frequencies and testing methodologies.

Feedstock controls

B2 This section sets out the feedstock controls for the incineration process which must be followed if the resulting ash is to be compliant with this Quality Protocol. The restrictions are detailed in Table B1 and only input materials listed in the feedstock column are permitted.

Table B1: Percentage feedstock contributions based on a calculated monthly average from the poultry litter power stations contributing to the final product

Feedstock *	EWC Code	Minimum % (monthly average, tonnes)	Maximum % (monthly average, tonnes)
Poultry litter (chicken and turkey) †	02 01 02	58	100
Forestry waste (woodchip)	02 01 07	–	20
Horse bedding derived from untreated wood sawdust	02 01 03 02 01 06	–	25
MBM and pet food (from Category 3 animal by-products)	02 02 02	–	10
Feathers	02 01 02	–	5
Any other high calorific alternative fuel types (e.g. sunflower husks, linseed)	02 01 (excluding those fuels specifically identified above)	–	10 (total of all alternatives)

* All feedstock must be free of non-natural contamination (e.g. plastic, glass and metal).

† Poultry litter must consist only of soiled bedding made from plant tissue (EWC 02 01 03, 02 01 07). This is typically wood shavings or straw used in deep litter broiler houses, together with the accumulated droppings and feathers as well as any spilled feed. This definition does not include bedding made from non-plant tissue.

B3 Straw ash (derived from a separate combustion facility) is recognised as an additive to PLA fertiliser. Therefore in addition to the feedstock restrictions specified in Table B1 for dedicated poultry litter *biomass* plants, up to a maximum limit of 5 per cent of the final ash product (by weight) can be straw ash.

Straw ash must be derived from a fuel mix of the following elements at the specified (unburnt) percentages:

- straw – minimum 75% (wheat, barley, rape, linseed and miscanthus – 02 01 03);
- forestry waste – maximum 25% (woodchip – 02 01 07);
- any other high calorific alternative fuels as agreed within the sites Environmental Permit (in Northern Ireland a waste management licence or a PPC permit is required) – maximum 10% (02 01 excluding those fuels specifically identified).

- B4 The addition of water, up to maximum of 15%, is permitted to help stabilise the ash, reduce dust and aid transportation. The addition of virgin potash is also permitted but only once PLA meeting the required standard (as set out in this Quality Protocol) has been produced and in order to create potash rich products, if specified by the customer.

Sampling and analysis methodology

- B5 The approved industry standard also imposes limits on the amount of certain elements and dioxins⁷ present in the final PLA product. The composition of the PLA product available for sale must not exceed any of the individual values specified in Table B2 (the 'environmental standard').

Table B2: Maximum compositional values for trace elements within PLA used as a fertiliser

Elements	Upper limit (mg/kg solid matter)
As	17
Cd	3
Co	11
Cr	31
Cu	596
Hg	0.5
Mn	3,500
Mo	45
Ni	24
Pb	244
Se	11
V	20
Zn	2063
Dioxin WHO-2005 TEQ (mammals) ng/kg (maximum)	20
Dioxin WHO-2005 TEQ (mammals) ng/kg (average for last 10 samples or each shipment)	10

- B6 The environmental standard set out in Table B2 must be applied to the PLA marketed for sale, after any blending with up to 5% straw ash. The standard has been derived from data provided by the TAG and the conclusions of the risk assessment.

⁷ Measured as World Health Organization Toxic Equivalent WHO-2005TEQ (Mammals).

- B7 To meet this environmental standard, the PLA must be analysed as per the sampling and analysis methodology described below:
- Sampling techniques should follow the standard set out in the Environment Agency guidelines for ash sampling and analysis⁸ and at least one sample should be taken from every 500 tonnes of PLA marketed for sale;
 - All chemical analysis of PLA must be carried out by laboratories using appropriate methods that are accredited by the United Kingdom Accreditation Service (UKAS);
 - The results should be analysed to demonstrate compliance with the chemical determinands listed in Table B2.
- B8 In order to ensure products sold are suitable for use the *primary nutrient* levels within each PLA product should, as a minimum, comply with the specifications as laid out in Table B3 below, the content for which is sourced from Annex 1 (List of types of EC fertilisers) of Regulation (EC) no 2003/2003 relating to fertiliser.

Table B3: minimum nutrient requirements for PLA and the ash streams used to produce it

Type designation	PK fertilisers.
Data on method of production	Product obtained chemically or by blending, without addition of organic nutrients of animal or vegetable origin
Minimum content of nutrients for PLA product (percentage by weight)	Total: 18 % (P2O5 + K2O); For each of the nutrients: 5 % P2O5, 5% K2O
Minimum content of nutrients for each ash stream (percentage by weight)	Either 5 % P2O5 or 5% K2O

- B9 Demonstration of compliance with these specifications should be conducted in line with testing procedures set out in the EC Fertiliser Regulations (as amended), which are as follows:
1. Standard applicable at the level of the laboratories: EN ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories, for at least one of the methods of Annexes III or IV.
 2. Standard applicable at the level of the accreditation bodies: EN ISO/IEC 17011, Conformity assessment: General requirements for accreditation bodies accrediting conformity assessment bodies.' EN L 282/14 Official Journal of the European Union 29.10.2009

The minimum content of nutrients within each ash stream used to produce PLA products should be tested on at least an annual basis, and more frequently if a change in production processes or inputs could result in a significant change to the composition of the ash stream.

Demonstrating compliance with the industry approved standard

- B10 Producers and importers must keep the following documentation for a minimum of six years to demonstrate that the PLA has been produced following the approved industry standard:
- record of compliance with feedstock controls;
 - results of the chemical analysis carried out to demonstrate compliance with the PLA environmental standard (Table B2);
 - results of the chemical analysis required by B9 to demonstrate compliance with Table B3.
 - demonstration of UKAS compliance; and
 - Fertiliser Industry Assurance Scheme (FIAS) accreditation.

Failure to meet the required environmental standard

- B11 The environment standard will not be met if a sample of PLA:
- fails to meet the composition limits specified in Table B2; or
 - fails to comply with the criteria set out in B2-B9.
- B12 If the environmental standard is not complied with the material will remain a waste. There are then three options for dealing with the waste:
- reprocessing of the batch by the producer followed by retesting and recalculation of its composition, until it meets the environmental standard; or
 - customer / agent application for a standard permit (or in Northern Ireland a waste management licence) and a deployment form to the Environment Agency or NIEA in order to spread the material to land as a waste; or
 - Disposal of the material by the producer at a suitably permitted or licensed facility.

Accreditation

- B13 All UK producers, importers and distributors of PLA must be accredited by the Fertiliser Industry Assurance Scheme (FIAS).
- B14 All PLA sales staff or advisors must be a FACTS (Fertiliser Advisers Certification Training Scheme) Qualified Adviser.

Appendix C Good practice for the transportation, storage and use of PLA as an agricultural fertiliser

Transportation and storage

- C1 Follow the joint Environment Agency/Agricultural Industries Confederation (AIC) guidance, [Protect the environment: the essential guide for storing solid and liquid fertilisers](#), to ensure that storage of the PLA is carried out in a manner that protects the environment.
- C2 Handle the PLA as described in the AIC's [Code of practice: for the prevention of water pollution from the storage and handling of solid fertilisers](#) to ensure that its storage and transportation does not cause harm to human health or the environment prior to sale or use.

Use as an agricultural fertiliser

- C3 The decisions by farmers and advisers on the amounts of PLA to be applied to land should be based primarily on the guidance given in Defra's [Fertiliser Manual \(RB 209\)](#).⁹ This manual's recommendations include:
- carry out soil sampling and analysis approximately every three to five years; and
 - apply fertiliser with the aim of raising the soil P and K Index to a target level for the rotation and then maintaining this level in the soil.
- C4 Apply all PLA fertiliser at a rate advised by a FACTS ([Fertiliser Advisers Certification Training Scheme](#)) Qualified Adviser, who will make recommendations in accordance with RB 209.
- C5 When applying PLA follow the recommendations in [Protecting our Water, Soil and Air: a Code of Good Agricultural Practice for farmers, growers and land managers](#) (2009), which covers all aspects of agricultural activities including nutrient use. It is particularly important to follow the recommendations in the Code in relation to the use of phosphate.
- C6 Phosphorus (P) is the main nutrient controlling the eutrophication of freshwaters which it enters via the medium of eroded soil particles or in the run-off from recently applied manures or fertilisers. Therefore the Code is concerned with minimising the movement of soil particles to surface waters, the concentration of phosphorus in these particles, and the risks of soil erosion and run-off. Measures set out in the Code include:
- regular soil analysis for available P every 3–5 years;
 - development of a nutrient management plan to ensure efficient use of fertilisers; and
 - best practice fertiliser storage and handling procedures.

Appendix D Supply documentation template

An example template showing the minimum information that should be supplied by the producer

Producer organisation name:

Address:

Postcode:

Telephone:

Fax:

Website:

Site of production (address):

Date of supply:

Customer name and contact details:

Customer nature of business:

Delivery address (if different from above):

Quantity supplied (weight/volume):

Batch number:

This product has been produced in accordance with the following industry standards:

This product has been produced in compliance with the Poultry Litter Ash Quality Protocol. Details of analysis conducted to demonstrate compliance with the environmental standard can be obtained from

Information on good practice for use as fertiliser as set out in Appendix C of the Poultry Litter Ash Quality Protocol is available from <http://www.environment-agency.gov.uk/business/topics/waste/114441.aspx>

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**Waste & Resources
Action Programme**

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