

**End of Waste Code
Sugar Mill By-Products
(ENEW07359817)**

Waste Reduction and Recycling Act 2011

Version history

| Version | Date | Description of changes |
|---------|-----------------|--------------------------|
| 1.00 | 01 January 2019 | Commencement of EOW code |

Prepared by: Waste and Contaminated Land Assessment, Department of Environment and Science

© State of Queensland, 2018

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 3.0 Australia (CC BY) licence.



Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit <http://creativecommons.org/licenses/by/3.0/au/deed.en>

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3170 5470.

This publication can be made available in an alternative format (e.g. large print or audiotape) on request for people with vision impairment; phone +61 7 3170 5470 or email <library@des.qld.gov.au>.

September 2018

Contents

| | |
|---|-----------|
| 1. Explanatory Statement..... | 4 |
| 2. Guidance..... | 4 |
| 2.1 Resource use versus Activity | 4 |
| 2.2 Resource versus Waste | 4 |
| 2.3 Failure to comply..... | 4 |
| 2.4 Lawfulness of the activity | 5 |
| 3. Period of this EOW code..... | 5 |
| 4. Waste to which this EOW code applies | 5 |
| 5. Person to whom this EOW code applies | 5 |
| 5.1 Registered resource producers of the resource | 5 |
| 5.2 Resource users..... | 5 |
| 6. Registered resource producer requirements | 6 |
| 7. Conditions of use | 7 |
| 8. Definitions..... | 9 |
| Appendix A - General obligations for all persons | 11 |

1. Explanatory Statement

This End of Waste (EOW) code for sugar mill by-products has been issued by the Queensland Government in accordance with section 159 of the *Waste Reduction and Recycling Act 2011* (WRR Act).

This EOW code states when the waste becomes a resource and any relevant requirements and/or conditions for its use. It supports the vision of Queensland's Waste Strategy for Queensland to become a national leader in avoiding unnecessary consumption and waste generation by adopting innovative resource recovery approaches and managing all products and materials as valuable and finite resources.

If the waste is not being used in accordance with the relevant requirements and/or conditions of this EOW code, or another type of permit that allows for its use, it is considered a waste and must be disposed of appropriately at a facility that is lawfully able to receive the waste.

2. Guidance

2.1 Resource use versus Activity

An EOW code states when a waste stops being a waste following any necessary processing or treatment.

A waste becomes a **resource** when it has been determined to meet the requirements of an EOW code. It may be necessary to treat or process the waste prior to that point. An Environmental Authority (EA) under the *Environmental Protection Act 1994* (EP Act) is required where an activity being undertaken triggers the threshold for any environmentally relevant activity (ERA). This means that treating or processing the waste to meet the resource quality criteria under the EOW code may require an EA under the EP Act if the activity meets the threshold for an ERA.

2.2 Resource versus Waste

A waste that has been considered a **resource** under an EOW Code is considered a resource only for the purpose of the approved use(s). In the event a resource does not meet the requirements of the EOW code and/or is not used in accordance with the EOW code, it is deemed to be a waste and must be managed in accordance with waste management requirements under the EP Act and the WRR Act and their subordinate legislation.

A resource approved under an EOW code is deemed to be a waste when it is disposed of at a waste disposal facility, or if it is deposited at a place in a way that would, apart from its use approved under an EOW code, constitute a contravention of the general littering provision or the illegal dumping of waste provision under the WRR Act - when the depositing starts.

2.3 Failure to comply

Any **person** operating under this EOW code must comply with the relevant requirements and/or conditions of the EOW code. It is an offence to not comply with the relevant requirements and conditions, carrying a maximum penalty of 1665 penalty units for an individual and 8325 penalty units for a corporation¹.

Please refer to Appendix A of this EOW code for general obligations for all persons which includes the **resource users**.

¹ The value of a penalty unit is stated in the Penalties and Sentences Regulation 2015 (Qld).

2.4 Lawfulness of the activity

The issuing of this EOW code for the use of a **resource** does not warrant or imply the lawfulness of the activity under all legislation, or that approvals necessary under other legislation have or will be approved.

It is the responsibility of the **registered resource producer** and **resource user** to identify and obtain all other approvals necessary for the relevant activities.

3. Period of this EOW code

This EOW code takes effect from **1 January 2019** and remains in force until it is cancelled, amended or suspended.

4. Waste to which this EOW code applies

This EOW code is limited to sugar mill by-products which constitutes **filter mud, boiler ash** or a filter mud/boiler ash blend generated by sugar mills.

This waste becomes a **resource** when the requirements and conditions under this EOW code are met.

5. Person to whom this EOW code applies

5.1 Registered resource producers of the resource

- 5.11 Prior to operating under this EOW code, the producer of the **resource** must register with the **chief executive** by giving a notice in the approved form² that the **person** intends to become a **registered resource producer** for this EOW code.
- 5.12 A registered resource producer for this EOW code must comply with the stated registered resource producer requirements.

5.2 Resource users

- 5.21 The **resource user** must only use the **resource** for a purpose allowed under this EOW code.
- 5.22 The resource user must comply with the stated conditions of use.

² The approved form, *Registered Resource Producer for an EOW code*, is available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2018/4082) as a search term

6. Registered resource producer requirements

| | | | |
|--|---|-------------------------|---------------------------|
| (6.1) | The registered resource producer must not use, sell or give away the resource unless it is at or below the levels set out in <i>Table 1 – Resource quality criteria</i> for the approved use in accordance with this EOW code. | | |
| Table 1 – Resource quality criteria | | | |
| Quality criteria | Total maximum concentration | | |
| | Filter mud and filter mud/boiler ash blend mixture | | Boiler ash |
| | % as dry product | % as wet product | (% as dry product) |
| Nitrogen (N) | 1.7 | 0.37 | 0.15 |
| Phosphorous (P) | 1.9 | 0.41 | 0.41 |
| Potassium (K) | 0.76 | 0.13 | 1.40 |
| Sulphur (S) | 0.15 | 0.03 | 0.19 |
| Calcium (Ca) | 3.7 | 0.81 | 1.22 |
| Magnesium (Mg) | 0.68 | 0.15 | 0.72 |
| (6.2) | The resource must not have any properties nor contain any other contaminants at concentrations which may cause environmental harm when used in accordance with this EOW code. | | |
| Resource monitoring | | | |
| (6.3) | The registered resource producer must sample, measure and record the composition of the resource for at least the quality criteria in <i>Table 1 – Resource quality criteria</i> , on an annual basis as a minimum. | | |
| (6.4) | The sampling of the resource must be conducted in accordance with Environmental Protection Authority Victoria Industrial Waste Resource Guideline on 'Sampling and analysis of waters, wastewaters, soils and wastes' ³ . | | |
| (6.5) | Where the composition of the resource has changed or is likely to change, additional monitoring must be conducted, which is sufficient to detect and characterise the extent of any change ⁴ , until such time that results demonstrate the material is compliant with <i>Table 1 - Resource quality criteria</i> . | | |
| (6.6) | Any determination of the suitability or characterisation of the resource (including ongoing sampling) must be made by an appropriately qualified person . | | |
| (6.7) | All analysis required under this EOW code must be carried out by a laboratory that has NATA certification, or an equivalent certification, for such analyses. | | |
| Information to be provided | | | |
| (6.8) | The registered resource producer must make the following available to any person to whom they provide the resource , at least annually: | | |

³ A copy of this guideline can be found on the [Environment Protection Authority Victoria's website](#).

⁴ Such additional monitoring should occur if there have been significant changes or modifications to any harvest or processing equipment.

| | |
|----------------|--|
| | <ul style="list-style-type: none"> a) confirmation in writing that the resource being supplied is compliant with the requirements of this EOW code; b) a current certificate of analysis for the quality of the resource for at least the quality criteria in <i>Table 1 – Resource quality criteria</i>; c) Users Method Statement for the resource; d) Safety Data Sheet for the resource; e) information in writing about potential risks to the environment from the activity during routine operations and emergencies; and f) information in writing about control measures that minimise the potential for environmental harm. |
| Records | |
| (6.9) | <p>The registered resource producer must keep the following records:</p> <ul style="list-style-type: none"> a) quantity of the resource provided for use; b) quality criteria of the resource (at least for parameters listed in <i>Table 1 - Resource quality criteria</i>); c) date of delivery of the resource; and d) destination of the resource (including the name and address of the resource user). |
| (6.10) | <p>The registered resource producer must keep records of all requirements under this EOW code for a period of at least five (5) years and provide the records to the chief executive upon request and in the format requested.</p> |

7. Conditions of use

| | |
|--------------------------------|--|
| Approved uses | |
| (7.1) | <p>The approved resource is sugar mill by-products that comply with the quality criteria listed in <i>Table 1- Resource quality criteria</i> and is used for the following purposes:</p> <ul style="list-style-type: none"> a) as a soil ameliorant or conditioner; or b) as a feedstock in composting or soil conditioner manufacturing activities. |
| Storage of the resource | |
| (7.2) | <p>The resource must be stored in a way that prevents or minimises contact with stormwater or runoff.</p> |
| (7.3) | <p>Stormwater or runoff that has come in contact with the resource must be managed to prevent causing environmental harm to the environmental values of the receiving environment.</p> |
| (7.4) | <p>Any pond used for the storage of the resource must be constructed and maintained so that:</p> <ul style="list-style-type: none"> a) there is no release of resource over or through bed or banks of the pond to any waters; and b) a freeboard of not less than 0.5 meters is maintained at all times, except in an emergency. |

End of waste code
Sugar Mill By-Products (ENEW07359817)

| Land application of the resource | |
|----------------------------------|---|
| (7.5) | The resource must only be applied to the land where the application is conducted at an agronomic loading rate and in a way determined by an appropriately qualified person or as recommended by industry guidelines and/or best management practices considering the resource composition, crop requirements and soil characteristics. |
| (7.6) | The resource user must maintain the following records for all applications of the resource to land as a soil ameliorant or conditioner as follows: <ul style="list-style-type: none"> a) details of the land on which application occurs (e.g. farm map block/paddock details and/or GPS coordinates (where available)); b) date of application of the resource; c) actual application rate (expressed as the quantity e.g. wet tonnes per hectare per application) for each application); and d) application method. |
| Preventing environmental harm | |
| (7.7) | All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by use of the resource . |
| Records | |
| (7.8) | All records required by the conditions of use of this EOW code must be kept by the resource user for a period of not less than five (5) years and provided to the chief executive upon request and in the format requested. |
| Notification | |
| (7.9) | Any breach of a condition of this EOW code must be reported to the chief executive as soon as practicable within 24 hours of becoming aware of the breach. Records must be kept including full details of the breach and any subsequent actions taken. |

8. Definitions

Words and phrases used throughout this EOW code in **bold** are defined below. Where a definition for a term used in this EOW code is sought and the term is not defined within this EOW code the definitions provided in the relevant legislation shall be used.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

'chief executive' means the Department of Environment and Science or its successor.

'contaminants' (as defined in Section 11 of the *Environmental Protection Act 1994*), unless authorised under this EOW code means —

- (a) a gas, liquid or solid; or
- (b) an odour; or
- (c) an organism (whether alive or dead), including a virus or parasite; or
- (d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- (e) a combination of contaminants.

'boiler ash' means a by-product produced by sugar mill boilers as fuel is burnt to power the manufacturing process. Varying amounts of soil and other residues are separated out as boiler ash.

'emergency(ies)' means a situation where either human health or safety is threatened, or serious or material environmental harm has been or is likely to be caused; and urgent action is necessary to protect the health or safety of persons, or prevent or minimise the harm, or rehabilitate or restore the environment because of the harm.

'environmental harm' means environmental harm as defined in Chapter 1 of the *Environmental Protection Act 1994*.

'environmental value' as defined in Chapter 1 of the *Environmental Protection Act 1994*.

'filter mud' means the residual mud and fibre filtered from the raw juice steam after lime addition and juice clarification. It is comprised mainly of water, fibre, mud solids (from soil) and natural impurities in the sugar cane.

'measures' have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

'NATA' is the National Association of Testing Authorities.

'person' means an individual or a corporation.

'records' include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition or requirement of this EOW code.

'registered resource producer' means a person who has registered with the **chief executive** to use, sell or give away the **resource** to be used under this EOW code.

'resource(s)' means **filter mud, boiler ash** or filter mud/boiler ash blends that meet the resource quality criteria in *Table 1 – Resource quality criteria* of this EOW code, and is sourced from a sugar mill.

'resource user(s)' means a **person** who uses the **resource** for the use approved under this EOW code and in such a manner which does not cause any **environmental harm**, and includes the producer who uses the resource.

'safety data sheet' means a document containing data regarding the properties of the resource which provides information on handling or working with that substance in a safe manner; and includes information such as physical data toxicity, environmental characteristics, health effects, first aid, reactivity; and storage, disposal, protective equipment and spill handling procedures. The Safety Data Sheet must be compliant with Safe Work Australia's code of practice for production of Safety Data Sheet.

'soil ameliorant or conditioner' means a substance added to soil to improve the growing conditions for plant roots by providing nutritional requirements.

'users method statement' means a method statement for the loading, transport and storage of the **resource**.

'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, artificial watercourse, bed and bank of any watercourse, dams that are not fit for purpose, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

- END -

Appendix A - General obligations for all persons

This appendix is not intended to provide a comprehensive assessment of all obligations under Queensland law. It provides some general information and persons are encouraged to familiarise themselves with all requirements related to their specific operation.

Responsibilities under the *Environmental Protection Act 1994*

All persons within the State of Queensland must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act.

General environmental duty

Section 319 of the *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to consider:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty. However, maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Science (DES) website www.des.qld.gov.au.

Some relevant offences under the *Environmental Protection Act 1994*

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is when the harm is not trivial or negligible in nature. Serious environmental harm is harm that is irreversible, of a high impact or widespread, or that is caused to an area of high conservation value or special significance. Damages, or costs required to rehabilitate the environment, of over \$5000 constitutes material environmental harm and damages, or costs required to rehabilitate the environment, of over \$50,000 constitutes serious environmental harm.

Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed water contaminants include a wide variety of contaminants listed in Schedule 9 of the Environmental Protection Regulation 2008.

It is your responsibility to ensure that prescribed water contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the *Waste Reduction and Recycling Act 2011*

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200 litres or more) at a place. Illegal dumping can also include abandoned vehicles.

Failure to comply with EOW code (section 158)

A registered resource producer for an EOW code must not produce, use, sell or give away the resource unless the registered resource producer complies with the requirements of the EOW code relating to the resource.

A person, other than a registered resource producer, must not use a resource in a way, or for a purpose, that does not comply with an EOW code for the resource.

Approved

11 September 2018

Enquiries:

Permit and Licence Management

Ph: 13 QGOV (13 74 68)

Email: palm@des.qld.gov.au