

Water Treatment Residuals (ENEW07503318)

Waste Reduction and Recycling Act 2011



Prepared by: Waste Assessment, Department of Environment, Science and Innovation

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March 2024

Version history

Version	Date	Description of changes
1.00	July 2019	Commencement of EOW code
2.00	October 2022	Amendment of EOW code
2.01	September 2023	Minor update to reflect the definition of waste moving into the <i>Waste</i> <i>Reduction and Recycling Act 2011</i> . This does not impact the interests of the producer or user of the resource.
2.02	28 March 2024	Updated department name to reflect machinery of government changes and the definition of serious or material harm.

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1. Explanatory Statement

This End of Waste (EOW) code for **water treatment residuals** has been issued by the **chief executive** in accordance with section 159 of the *Waste Reduction and Recycling Act 2011* (WRR Act).

This EOW code states when **water treatment residuals** become a **resource** and any relevant requirements and/or conditions for its use. If the **resource** 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 under section 8AA of the WRR Act 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

Under section 155 of the WRR Act, a waste stops being a waste and becomes a **resource** when it meets the requirements and conditions of an EOW code. Under section 159 of the WRR Act, an EOW code specifies the circumstances when a waste becomes a resource; how it must be used to be considered a resource; when it is no longer considered a resource but a waste instead; and conditions that must be complied with by resources users and registered resource producers.

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 is a **resource** under an EOW code is considered a **resource** only for the use(s) approved in an EOW code. To be considered a resource under the EOW code, the material used as the resource must meet the requirements of the EOW code and be used in accordance with the conditions of the EOW code, otherwise it is considered 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** under an EOW code, is deemed to be a waste again, if it is not used in accordance with the EOW code; if it is disposed of at a waste disposal site; 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 (section 103) or the illegal dumping of waste provision (section 104) under the WRR Act.

2.3 Failure to comply

It is an offence under section 158(1) of the WRR Act for a **registered resource producer** to produce the **resource**, or use, sell or give away the **resource** if they do not comply with the requirements under an EOW code. Further, it is an offence under section 158(2) of the WRR Act for a **person** to use the **resource** in a way, or for a purpose, that does not comply with an EOW code for the **resource**. These offences carry a maximum penalty of 1,665 penalty units for an individual and 8,325 penalty units for a corporation¹.

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

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

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

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 the day of gazettal of this EOW code and remains in force until it is amended, cancelled or suspended by the **chief executive**².

4. Waste to which this EOW code applies

This EOW code is limited to **water treatment residuals** generated from the treatment of water for the supply of **water for human consumption**. The **water treatment residuals** become 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

5.1.1 A **registered resource producer** for this EOW code must comply with the stated registered resource producer requirements in Section 6 – Registered Resource Producer Requirements.

5.2 Resource users

- 5.2.1 The **resource user** must only use the **resource** in a way, and for a purpose allowed under this EOW code.
- 5.2.2 The **resource user** must comply with the stated conditions of use in Section 7 Conditions of Use.

² If an EOW code is to be amended, cancelled or suspended, the chief executive will provide an opportunity to make written submissions by providing a proposed action notice to the registered resource producers; and publishing the proposed action notice on the chief executive's <u>website</u> (https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-framework).

6. Registered Resource Producer Requirements

y with <i>Requirement (6.3)</i> of this the resource under this EOW and quality characteristics: ater for human consumption ; ant of water with aluminium ted in <i>Table 1: Resource qualit</i> y
the resource under this EOW and quality characteristics: ater for human consumption ; ent of water with aluminium
and quality characteristics: ater for human consumption; ant of water with aluminium
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ted in Table 1: Resource quality
um concentration otherwise specified)
5 (pH units)
50,000
100
1
550
100
150
19,000
1
110
5
200
0.005
-

³ The approved form, *Registered Resource Producer for an EOW code,* is available on the chief executive's <u>website</u> (https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-framework).

(6.5)	Any determination of the suitability or characterisation of the resource (including ongoing sampling) for use under this EOW code must be made by an appropriately qualified person .		
(6.6)	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.		
Inform	ormation to be provided		
(6.7)	The registered resource producer must provide the following to the resource user upon establishment of an arrangement to accept the resource for use, and annually thereafter:		
	a)	a copy of the EOW code for Water Treatment Residuals (ENEW07503318) ⁴ ;	
	b)	the registered resource producer's business name, ABN and address;	
	c)	confirmation in writing that the resource being supplied is compliant with <i>Requirement (6.3)</i> of this EOW code;	
	d)	a most recent certificate of analysis for the quality characteristics listed in <i>Table 1: Resource quality criteria</i> ; and	
	e)	safety data sheet for the resource.	
Record	Records		
(6.8)	The registered resource producer must keep the following records for each load of the reso supplied to a resource user :		
	a)	quantity (in tonnes) of the resource supplied;	
	b)	quality criteria of the resource (including but not limited to the quality characteristics listed in <i>Table 1: Resource quality criteria</i>);	
	c)	date of dispatch of the resource ; and	
	d)	business name, ABN and address for the person receiving the resource .	
(6.9)	All reco be:	ords required to be kept by the registered resource producer under this EOW code must	
	a)	kept by the registered resource producer for a period of not less than five (5) years; and	
	b)	provided to the chief executive upon request, in the format requested and in the time period specified.	
Notifica	ation of e	emergencies, incidents and exceptions	
(6.10)	Any breach of a requirement of this EOW code must be reported to the chief executive within 24 hours of becoming aware of the breach ⁵ .		

⁴ This can be a physical copy, an electronic copy or a link to the chief executive's <u>website</u>

⁽https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-framework) where this EOW code is available.

⁵ Reporting can be via the chief executive's Pollution Hotline (1300 130 372 – option 2) or via online reporting through the chief executive's <u>website</u> (https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-framework).

(6.11)	Records of any breach of a requirement of this EOW code, including full details of the breach and
	any subsequent actions taken, must be kept and provided to the chief executive upon request, in
	the format and in the time period specified.

7. Conditions of Use

Approv	ved uses	
(7.1)	The approved resource is water treatment residuals which complies with <i>Requirement (6.3)</i> of this EOW code and is used for the following purposes:	
	a) application to land as a soil ameliorant ;	
	b) application to land as a soil conditioner ;	
	c) as a feedstock in the manufacturing of compost ; and/or	
	d) as a feedstock in the manufacturing of soil for landscaping and/or garden use.	
Resou	rce use	
(7.2)	The resource must not be applied to land which:	
	a) contains potential acid sulfate soils;	
	b) contains actual acid sulfate soils; and/or	
	c) has a soil pH of less than 5.5 or greater than 9.0.	
Resou	rce use as a soil ameliorant and/or soil conditioner	
(7.3)	Prior to the application of the resource to land, an appropriately qualified person must determine the agronomic loading rate after considering the resource composition, crop nutritional demand and soil characteristics of the land.	
(7.4)	The resource must only be applied to land:	
	a) if it meets the requirements of AS 4454 ;	
	b) at the agronomic loading rate determined by an appropriately qualified person ; and	
	c) in accordance with industry accepted standards and/or guidelines (e.g. NSW Guidelines).	
(7.5)	The resource user must maintain the following records for all applications of the resource to land:	
	 a) details of the assessment carried out by the appropriately qualified person to determine the agronomic loading rates in accordance with <i>Condition (7.3)</i>; 	
	 b) details of the land on which application occurs (e.g. soil pH, farm map block/paddock details and/or GPS coordinates); 	
	c) date of application of the resource ; and	
	 actual application rate (expressed as the quantity e.g. tonnes per hectare per application) for each application. 	
Resou	rce use as a feedstock in the manufacturing of compost	
(7.6)	The resource must only be used to manufacture compost that meets the requirements of AS 4454 .	
Resou	rce use as a feedstock in the manufacturing of soil for landscaping and/or garden use	

(7.7)	The resource must only be used to manufacture soil for landscaping and/or garden use that meets the requirements of AS 4419 , and the contaminant limits in Table 3.1(C) in AS 4454 .		
Storag	e of the resource		
(7.8)	The resource must be stored in a way that prevents or minimises contact with stormwater or runoff.		
Preven	ting environmental harm		
(7.9)	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by storage and/or use of the resource .		
(7.10)	The resource must not be released directly or indirectly to land, air or waters in a way that is not in accordance with the conditions of this EOW code.		
Record	ls		
(7.11)	The resource user must record the following information for each load of the resource received by the resource user under this EOW code:		
	 a) business name, ABN and address of the registered resource producer who supplied the resource; 		
	b) date the resource user received the resource ;		
	c) quantity (in tonnes or cubic metres) of the resource received by the resource user ; and		
	d) site of use of resource (e.g. street address, lot on plan and/or GPS coordinates).		
(7.12)	All records required to be kept by the resource user under the conditions of this EOW code must be:		
	a) kept by the resource user for a period of not less than five (5) years; and		
	 provided to the chief executive upon request, in the format requested and in the time period specified. 		
Notifica	ation of emergencies, incidents and exceptions		
(7.13)	Any breach of a condition of this EOW code must be reported to the chief executive within 24 hours of becoming aware of the breach ⁶ .		
(7.14)	Records of any breach of a condition of this EOW code, including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request, in the format requested and in the time period specified.		

⁶ Reporting can be via the chief executive's Pollution Hotline (1300 130 372 – option 2) or via online reporting through the chief executive's <u>website</u> (https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-framework).

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.

'ABN' means Australian Business Number which is a unique 11 digit number issued by the Australian Business Register and identifies a business in Australia.

'actual acid sulfate soils' as defined in the most recent version of the Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines means soils containing highly acidic soil horizons resulting from the aeration of soil materials that are rich in iron sulfides, primarily pyrite. This oxidation produces hydrogen ions in excess of the sediment's capacity to neutralise the acidity, resulting in soils of pH 4 or less. These soils can usually be identified by the presence of jarosite.

'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.

'AS 4419' means Australian Standard 4419 Soils for landscaping and garden use (2018), or its most recent version.

'AS 4454' means Australian Standard 4454 Composts, soil conditioners and mulches (2012), or its most recent version.

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

'compost' has the meaning in **AS 4454** and is the organic product that has undergone controlled aerobic and thermophilic biological transformation through the **composting** process to achieve **pasteurisation** and reduce phytotoxic compounds, and achieved a specified level of maturity as specified Appendix N (Determination of Maturity Index) of **AS 4454**.

'composted' means an organic product that has undergone composting.

'composting' means the process by which organic materials are microbiologically transformed under controlled aerobic conditions to achieve **pasteurisation** and a specified level of maturity as specified in Appendix N (Determination of Maturity Index) of **AS 4454**.

'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.

'lawful(ly)' means allowed or permitted by law and not contrary to law.

'load' means the volume of **resource** put in or on something for conveyance or transportation, carried at one time. A truck and trailer carrying the **resource** is considered as one load as well as multiple bins travelling by rail. Where the **resource** is transported via conveyor systems, information should be recorded on a daily basis until the transfer ceases.

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

'NATA' means the National Association of Testing Authorities.

'NSW Guidelines' means the New South Wales Environmental Protection Authority's *Environmental Guidelines:* Use and Disposal of Biosolids Products (2000) or any updated edition.

'pasteurised' means an organic product that has undergone pasteurisation.

'pasteurisation' means the process whereby the organic materials is thermically treated to significantly reduce the numbers of plant and animal pathogens and plant propagules. It must undergo appropriate turning of outer material to the inside of the windrow so that the whole mass is subjected to a minimum of 5 turns with the internal temperature maintained at 55°C or higher for 15 days or longer.

'person' means an individual or a corporation.

'polymers' mean an organic polymer or aluminium polymer compound used for flocculation and coagulation in the water treatment processes for the supply of **water for human consumption**.

'potential acid sulfate soils' as defined in the most recent version of the Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines means soils that contain iron sulfides or sulfidic material, which have not been exposed to air and so have not oxidised. The field pH of these soils in their undisturbed state is pH 4 or more, and may be neutral or slightly alkaline. Potential acid sulphate soils pose a considerable environmental risk if disturbed, as they will generate iron and sulfuric acid when exposed to air.

'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(s)' 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' means water treatment residuals that meets the criteria and quality characteristics in *Requirement* (6.3) of this EOW code.

'resource user(s)' means a **person** who uses the **resource** for a 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.

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

'soil conditioner' has the meaning in **AS 4454** and is any **composted** or **pasteurised** organic product suitable for adding to soils. This also includes products termed 'soil amendment', 'soil additive', 'soil improver' and similar, but excludes polymers that do not biodegrade, such as plastics, rubber and coatings.

'water for human consumption' as defined in the most recent version of the Australian Drinking Water Guidelines 2011 means water treated and supplied primarily for direct or indirect use by humans for drinking and other purposes.

'water treatment residuals' means the waste streams produced from the treatment of water generated through water treatment processes for the supply of **water for human consumption**.

'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, surface water, natural or artificial watercourse, bed and bank of any watercourse, dams, 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 obligation 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* (EP Act) 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.

More information is available on the Department of Environment, Science and Innovation 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 and serious environmental harm are defined in sections 16 and 17 of the EP Act. 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 thresholds amounts in the EP Act also constitutes material or 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 contaminants include a wide variety of contaminants listed in Schedule 9 of the *Environmental Protection Act 1994*.

It is your responsibility to ensure that prescribed 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. 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.

Failure to comply with EOW code (section 158)

A registered resource producer for an EOW code must not 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: 28 October 2022 Enquiries: Permit and Licence Management Phone: 13 GGOV (13 74 68(Email: palm@des.qld.gov.au