



Report and recommendations of the Environmental Protection Authority



Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland; Resource Recovery Facility, Red Hill; East Rockingham Waste to Energy and Materials Recovery Facility; and Kwinana Waste to Energy Project - inquiry under section 46 of the *Environmental Protection Act 1986*

**New Energy Corporation Pty Ltd,
Eastern Metropolitan Regional Council and
Kwinana WTE Project Co Pty Ltd**

Report 1623

October 2018

Inquiry under section 46 of the *Environmental Protection Act 1986*

The Minister for Environment has requested that the Environmental Protection Authority inquire into, and report on, how the implementation conditions relating to approved waste to energy proposals should be changed to restrict the waste feedstock to genuinely residual waste in accordance with the waste hierarchy under section 5 of the *Waste Avoidance and Resource Recovery Act 2007*.

This inquiry relates to conditions in Ministerial Statements 935, 976, 994 and 1016 for the Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland; Resource Recovery Facility, Red Hill; East Rockingham Waste to Energy and Materials Recovery Facility; and Kwinana Waste to Energy Project proposals, respectively.

Section 46(6) of the *Environmental Protection Act 1986* requires the Environmental Protection Authority (EPA) report to include:

1. A recommendation on whether or not the implementation conditions to which the inquiry relates, or any of them, should be changed
2. Any other recommendations that it thinks appropriate

The following is the EPA's report and recommendations to the Minister pursuant to s. 46(6) of the *Environmental Protection Act 1986*.



Dr Tom Hatton
Chairman

16 October 2018

Assessment No. 2159

Contents

	Page
1. Background	1
2. Request to inquire into changing conditions	2
3. Inquiry into conditions	3
3.1 Air Quality and Social Surroundings	3
3.2 Assessment of the proposed changes to conditions	6
4. Conclusion and recommendations	10
References	11
Appendix 1: Recommended definition and environmental conditions	12
Appendix 2: Identified decision-making authorities and recommended environmental conditions	32

1. Background

In 2013 the Environmental Protection Authority (EPA) and the Waste Authority provided advice under section 16(e) of the *Environmental Protection Act 1986* (EP Act) to the then Minister for Environment on the environmental and health performance of Waste to Energy (WTE) technologies in Report 1468 (EPA, 2013).

As part of the advice, the EPA and Waste Authority concluded that, subject to appropriate regulation, and the matching of suitable technologies to types of waste input and appropriate facility scale, WTE facilities could be operated in Western Australia. The advice stated that waste sourced as input must target residual waste that cannot feasibly be reused or recycled and would otherwise be disposed of into landfill.

Since 2013, four WTE facilities have been approved:

- Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland (New Energy Corporation Pty Ltd), Ministerial Statement 935
- Resource Recovery Facility, Red Hill (Eastern Metropolitan Regional Council), Ministerial Statement 976
- East Rockingham Waste to Energy and Materials Recovery Facility (New Energy Corporation Pty Ltd), Ministerial Statement 994
- Kwinana Waste to Energy Project (Kwinana WTE Project Co Pty Ltd), Ministerial Statement 1016

None of the four facilities are in operation, and the EPA is currently assessing the East Rockingham WTE facility as a revised proposal.

In accordance with Western Australia's waste hierarchy, WTE is a less preferred waste management option to recycling and avoidance. Emissions and discharges at WTE facilities are mostly regulated by the Department of Water and Environmental Regulation (DWER) under a Part V licence.

The Waste Authority is developing a Waste Strategy for Western Australia that will be subject to a targeted consultation process later this year. During this inquiry, the EPA has been kept updated on the Waste Strategy, to ensure any work undertaken allows for future policy changes with time.

2. Request to inquire into changing conditions

On 14 November 2017, the Minister for Environment asked the EPA to inquire into, and report on, the adequacy of operating conditions placed on approved WTE facilities.

The inquiry's purpose was to investigate the types of waste to be used by approved WTE proposals, ensuring that waste feedstocks at these facilities were restricted to 'residual waste' in accordance with the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act).

At the time of the request, a clear and consistent definition of 'residual waste' did not exist. A key aspect of the inquiry was to define 'residual waste' in accordance with the waste hierarchy under section 5 of the WARR Act, for the purposes of WTE proposals.

EPA policy and procedures

In conducting this inquiry, the EPA considered and gave due regard to relevant, current and former policy documents. The EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) administrative procedures 2016* (EPA 2016a) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) procedures manual 2016* (EPA 2016b).

3. Inquiry into conditions

In undertaking the inquiry, the EPA reviewed the report and recommendations and Ministerial Statements of the four approved WTE facilities.

The EPA considers that the following are the key environmental factors relevant to the change to conditions:

- Air Quality
- Social Surroundings.

3.1 Air Quality and Social Surroundings

The EPA's objectives for these environmental factors are:

- *to maintain air quality and minimise emissions so that environmental values are protected*
- *to protect social surroundings from significant harm.*

The EPA assessed the four approved WTE facilities over an approximate three-year period. Each of the four facilities has a different design, and given environmental impact assessment is based on the merits of a proposal, each proposal was assessed accordingly.

EPA Report 1469

EPA Report 1469 for the Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland by New Energy Corporation Pty Ltd was for a WTE plant and associated materials recovery facility (MRF).

The WTE plant consisted of gasifiers, gas storage, gas burner, heat exchanger and a steam generation unit, a steam turbine and air quality control system. A continuous emissions monitoring system was proposed to monitor various air emissions. Other infrastructure included shredders, an evaporation pond, store rooms, a maintenance workshop, and administration buildings. The associated MRF was to be used to separate recyclables and remove incompatible materials from the waste stream.

The key environmental factor for the assessment was Air Quality; specifically, air pollutants produced. The EPA assessed the WTE plant on the basis of the preliminary design, noting that components such as heat exchangers, boilers, generation plants and air pollution control systems are robust, well-proven technologies for WTE facilities. The assessment also determined the materials considered acceptable for processing, and materials excluded from processing.

The EPA concluded that the former Department of Environment and Conservation (DEC) (now DWER) works approval and licensing process under Part V of the EP Act was the most appropriate process for setting and regulating air emissions. The EPA provided recommendations to the then DEC, including stack emission limits and

a staged commissioning approach, specifying that operating parameters should be continuously monitored. Hence the EPA did not recommend any specific Ministerial conditions for this proposal, although it did place requirements on the facility's design through parameters in the schedule within the recommended Ministerial Statement.

EPA Report 1487

EPA Report 1487 for the Resource Recovery Facility, Red Hill by the Eastern Metropolitan Regional Council was for a resource recovery facility at the existing Red Hill Waste Management Facility. It was proposed that one of two technology options for processing waste would be used: (a) anaerobic digestion; or (b) gasification.

The anaerobic digestion option consisted of a fermenter to produce biogas and compost, while the gasification option consisted of a fuel bunker and transport system, thermal conversion unit, heat recovery steam generator, power generation system and flue-gas cleaning system. The EPA assessed both options for processing of waste at the proposed WTE facility.

The key environmental factors for the assessment were Air Quality and Social Surroundings (odour) associated with both the anaerobic digestion and gasification options. The assessment also determined the materials considered acceptable for processing, as well as materials excluded from processing.

The EPA concluded that its environmental objectives could be met for the anaerobic digestion option subject to conditions requiring:

- preparation of an air quality report setting out emission rates and addressing normal operations, start up, shut down, and equipment failure conditions; and
- an independent peer review of the detailed design of the odour control system specifically addressing factors such as: building orientation, specifications of the air extraction system, biofilter design, monitoring and control systems, robustness of operational protocols.

The EPA concluded that its environmental objectives could be met for the gasification option subject to conditions requiring:

- preparation of documentation demonstrating that the chosen gasification technology:
 - had been operated reliably elsewhere
 - could operate within the waste incineration directive limits
 - had a successful track record in treating the waste streams proposed
 - had operated at a similar scale to the proposal
 - had a configuration of components that had been demonstrated elsewhere
- a rerun of the odour emissions modelling to demonstrate an overall reduction in the predicted cumulative odour impacts.

EPA Report 1513 (currently being assessed as a revised proposal)

EPA Report 1513 for the East Rockingham Waste to Energy and Materials Recovery Facility by New Energy Corporation Pty Ltd was originally for a WTE plant and associated MRF. The proposal is now being assessed as a revised proposal to alter the technology, increase waste throughput, addition of a bottom ash treatment plant, and removal of the MRF.

The key environmental factor assessed in the original proposal was Air Quality; specifically, air pollutants produced. The EPA concluded that its environmental objective could be met for the proposal subject to conditions on waste acceptance criteria requiring that only acceptable waste is processed at the plant.

The WTE plant now consists of a reception hall, waste bunker, combustion system, boiler, bottom ash handling and treatment area, and other associated infrastructure.

The key environmental factors for the current assessment are Air Quality and Social Surroundings (odour and noise). The assessment will determine if the change in technology would change potential impacts to human health and amenity and if the waste acceptance criteria for the original proposal are appropriate.

The EPA's report and recommendations on the revised proposal is expected to be released in October 2018.

EPA Report 1538

EPA Report 1538 for the Kwinana Waste to Energy Project by Kwinana WTE Project Co Pty Ltd was for a WTE plant and associated brick making facility.

The WTE plant consisted of two fully-automated grate (stoker) furnaces or lines, a steam system with electricity generation, flue-gas cleaning air pollution control (APC) systems with one flue-gas stack with twin flues. Each line would have an integrated stoker grate boiler system, an ash discharger, an APC system, and an induced draft fan and flue. Other facilities included a control room, laboratory, administration offices, roads and a car park. The purpose of the associated brick making facility was to reuse the ash produced in combustion to make by-products such as bricks and pavers.

The key environmental factor for the assessment was Air Quality; specifically, air pollutants produced, and reuse of fly ash. The assessment also determined the materials considered acceptable for processing, as well as materials excluded from processing.

The EPA concluded that its environmental objective could be met for the proposal subject to conditions requiring:

- waste acceptance criteria, to ensure that all waste received is recorded, categorised and processed appropriately to demonstrate compliance with waste types that are permitted to be processed at the facility; and

- the preparation of an ash reuse management plan, to ensure that the reuse of fly ash for brick products can reliably meet health, environmental safety and integrity requirements.

3.2 Assessment of the proposed changes to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for the factors:

- *Environmental factor guideline – Air Quality* (EPA 2016c)
- *Environmental factor guideline – Social Surroundings* (EPA 2016d)

As part of the inquiry, the EPA consulted with WTE operators and DWER, whose role is to monitor compliance of implementation conditions at WTE facilities. The EPA also extended meeting invitations to the Waste Authority and the Western Australia Local Government Association.

Consultation process

In correspondence dated 6 April 2018, the EPA Chairman invited proponents of approved WTE facilities to meet and discuss the Minister's inquiry request. At this time, the EPA also advised regional councils, unaffiliated local councils, and the Waste Authority of the Minister's request.

A meeting was held with the EPA Chairman, EPA Services officers and WTE proponents on 2 May 2018. During the meeting, the EPA Chairman outlined the process for the EPA's investigations, and advised that proponents would be consulted as part of this process.

On 7 May 2018, the EPA Chairman requested advice from DWER, specifically regarding a definition for 'residual waste'. DWER provided advice on 6 June 2018 that described the different waste streams, and provided future targets for the percentage of each waste stream that should be considered as residual waste, after resource recovery and recycling.

After consideration of the information provided, the EPA prepared a draft definition and draft condition for residual waste, and a draft condition for waste acceptance monitoring and management. The draft definition and conditions were provided to WTE proponents on 15 August 2018 for comment, and an opportunity to meet was given.

Comments from proponents were received on 6 September 2018. Relevant advice was incorporated into the definition for residual waste, condition for residual waste, and condition for waste acceptance monitoring and management. Follow-up meetings were held with the EPA Chairman, EPA Services officers and WTE proponents in September 2018, to discuss how proponents' comments had been considered and incorporated into the conditions.

A meeting was held on 21 September 2018 with EPA board members and Waste Authority board members to discuss the inquiry's progress, as well as the proposed definition for residual waste. The advice provided by board members was then incorporated into the definition and conditions, and the revised version provided to WTE proponents, DWER and the Waste Authority for final comment on matters of fact, technical issues and implementation.

Final comments from WTE proponents, DWER and the Waste Authority were provided on 8 October 2018. The comments have been considered and relevant information has been included in the final definition and conditions.

Definition for 'residual waste'

A key aspect of this inquiry was to provide a clear and consistent definition for 'residual waste' for application to WTE facilities.

The drafting of the definition for 'residual waste' has considered the advice provided by the Waste Authority and the WTE proponents. It has incorporated the principles of the waste hierarchy in the WARR Act, as well as the Waste Strategy which is approved and revised under the WARR Act. For example, for municipal waste it is expected that all efforts have been made to source separate recyclables and organics from residual waste.

The EPA notes that the waste strategies are reviewed every five years. The current draft waste strategy is subject to consultation and would be changed with time, as changes to social expectations about waste management (e.g. recycling, reuse) occur and better source separation practices become available.

In considering the final comments provided by the Waste Authority, the EPA notes that the definition for residual waste allows for changes in the requirements under the WARR Act and the Waste Strategy over time. As a result of this, the definition has been written as:

'Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the Waste Avoidance and Resource Recovery Act 2007 (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.'

In considering the final WTE proponent comments, the EPA notes that there is still some reservation about the term "best practice source separation" in the definition for residual waste. The EPA has considered these comments, and considers the definition for residual waste to be the best balance between the preferences of the WTE proponents and the aspirations of the Waste Authority's Waste Strategy.

The EPA considers that this definition fulfils the Minister's brief and has flexibility for continuous improvement of waste separation by all solid waste streams.

New conditions

In undertaking the inquiry into the conditions for approved WTE facilities, the EPA noted the different requirements in each of the four Ministerial Statements.

To fulfil the Minister's brief, and to ensure equity to proponents and consistency of conditions for the four approved WTE facilities, the EPA prepared:

1. A new condition for 'residual waste' that requires proponents to develop and submit a waste acceptance system plan, which shows that the technology has the ability to operate on 'residual waste' only; describes the waste types accepted and the source separation process, and details the procedures and measures to be implemented. These requirements are to be reported in the annual compliance report.
2. A new condition for waste acceptance monitoring and management that requires proponents to develop and submit a plan. The Plan is to include identification of the suppliers of waste, describe the types of waste accepted and record the waste loads and quantity accepted. The results of the monitoring must be retained.

In considering the final comments provided by the Waste Authority, the EPA notes that the 'timing targets' in the current draft Waste Strategy add a level of detail that goes beyond the intention of the condition for residual waste. The condition, as it stands, is designed to be flexible for proponents but encourages continuous improvement towards accepting only residual waste over time.

The EPA notes that the WTE proponents do not currently have control over all source separation practices for all the waste generators. Due to this, the EPA considers that having conditions which require the proponent to have technology that can operate on residual waste only is the most reasonable approach, and allows proponents to be able to accept only residual waste as waste generators improve source separation practices.

The EPA considers that having conditions on waste acceptance and monitoring would allow the government to track the type of wastes received by the WTE proponents and monitor for improvement in source separation practices. The EPA notes that this information would also be publicly available and allow the public to monitor the performance of source separation practices by waste generators.

The condition for 'residual waste' would be applied to all four Ministerial Statements.

The new condition for waste acceptance monitoring and management would be applied to Ministerial Statement 935 and 976, and replace existing waste acceptance criteria conditions in Ministerial Statement 1016 and the new statement that will replace Ministerial Statement 994.

The EPA considers that the addition and/or replacement of conditions does not create any unimplementable requirements for proponents. The EPA considers that the requirements in the new conditions are consistent with expected operating practices for WTE facilities.

Pt V Environmental Protection Act Regulations

In conducting this inquiry, the EPA is aware that DWER is responsible for the regulation of emissions under Part V 'Environmental Regulation' and Part VI 'Enforcement' of the EP Act. During the inquiry to change the implementation conditions, the EPA considered the capacity and experience of the regulator to manage the factors, including:

- a. Whether the regulator has established policies and guidelines to support its regulatory process related to the factor.
- b. Whether the regulator has the technical skills and experience to manage the environmental impacts, particularly where non-standard technology is proposed or the type of proposal is not regularly considered by the regulator.
- c. Where the EPA considers that an opportunity for public comment is important, whether this is provided by the regulatory process.

4. Conclusion and recommendations

Having enquired into the conditions for approved WTE facilities, the EPA recommends:

1. Adding the prepared definition for residual waste: 'Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.'
2. Adding the prepared condition that requires a waste acceptance system plan.
3. Adding or replacing the prepared condition that requires a waste acceptance monitoring and management plan.
4. Including development envelope coordinates on all four Ministerial Statements.

In relation to the environmental factors, and considering the information provided by DWER, the WTE proponents and relevant EPA policies and guidelines, the EPA concludes that:

- No new significant environmental factors have arisen since the original assessments for the four proposals.
- The addition and/or replacement of conditions is reasonable, implementable and is consistent with expected operating practices for WTE facilities.

Recommendations

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment under s. 46 of the EP Act:

1. It is appropriate to add a definition for 'residual waste' into Schedule 1, 2 or 3 of Ministerial Statements 935, 976, 994 and 1016.
2. While retaining the environmental requirements of the original conditions of Ministerial Statements 935, 976, 994 and 1016, it is appropriate to add and/or replace the new implementation conditions.
3. It is appropriate to consolidate previous changes made to Ministerial Statement 1016, and include development envelope coordinates to Ministerial Statements 935 and 976.

References

EPA 2013, *Environmental and health performance of waste to energy technologies*, Advice of the Environmental Protection Authority to the Minister for Environment under section 16(e) of the *Environmental Protection Act 1986*, Report 1468, April 2013.

EPA 2016a, *Environmental Impact Assessment (Part IV Divisions 1 and 2) administrative procedures 2016*, Environmental Protection Authority, Perth, WA.

EPA 2016b, *Environmental Impact Assessment (Part IV Divisions 1 and 2) procedures manual 2016*, Environmental Protection Authority, Perth, WA.

EPA 2016c, *Environmental factor guideline – Air Quality*, Environmental Protection Authority, Perth, WA.

EPA 2016d, *Environmental factor guideline – Social Surroundings*, Environmental Protection Authority, Perth, WA.

Appendix 1: Recommended definition and environmental conditions

Section 44(2) of EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO
A PROPOSAL
(Section 46 of the *Environmental Protection Act 1986*)**

BOODARIE WASTE-TO-ENERGY AND MATERIALS RECOVERY FACILITY, PORT
HEDLAND

Proposal: The proposal is to develop a waste management facility located in the Boodarie Strategic Industrial Area approximately 13 kilometres south-west of Port Hedland.

Proponent: New Energy Corporation Pty Ltd
Australian Company Number 139 310 053

Proponent Address: Suite 1, 12 Parliament Place,
WEST PERTH WA 6005

Report of the Environmental Protection Authority: 1623

Preceding Statement/s Relating to this Proposal: 935

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 935 dated 21 May 2013, be changed as specified in this Statement.

Condition 4 is added to Statement 935

4 Compliance Reporting

- 4-1 The proponent shall prepare, submit and maintain a Compliance Assessment Plan to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation, whichever is sooner.
- 4-2 The Compliance Assessment Plan shall indicate:
- (1) the frequency of compliance reporting;
 - (2) the approach and timing of compliance assessments;
 - (3) the retention of compliance assessments;
 - (4) the method of reporting of potential non-compliances and corrective actions taken;

- (5) the table of contents of Compliance Assessment Reports; and
 - (6) public availability of Compliance Assessment Reports.
- 4-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.
- 4-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.
- 4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.
- 4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as agreed in writing by the CEO.

The Compliance Assessment Report shall:

- (1) be endorsed by the proponent's CEO or a person delegated to sign on the CEO's behalf;
- (2) include a statement as to whether the proponent has complied with the conditions;
- (3) identify all potential non-compliances and describe corrective and preventative actions taken;
- (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and
- (5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.

Condition 5 is added to Statement 935

5 Public Availability of Plans and Reports

- 5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved in writing by the CEO, all environmental plans and reports required under this statement.

5-2 If any parts of the plans and reports referred to in condition 5-1 contains particulars of:

- (1) a secret formula or process; or
- (2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make those parts of the plans and reports publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

Condition 6 is added to Statement 935

6 Residual Waste

6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Ensure that the Boodarie Waste-to-Energy and Materials Recovery Facility has the ability to accept residual waste only as defined in Table 3 in Schedule 1 by implementing conditions 6-2 to 6-4.

6-2 Prior to commissioning and thereafter by 31 October each year, the proponent shall develop (or revise) and submit a Waste Acceptance System Plan to apply the objective specified in condition 6-1, which includes the following:

- (1) a description of the waste types that the facility could accept, if it only operated on residual waste;
- (2) a description of the source separation processes, as provided by the generator of the waste, for the waste streams that are accepted at the facility;
- (3) details of, and justification for, the procedures and measures that the proponent has implemented to achieve the objectives specified in condition 6-1; and
- (4) a detailed description of the learnings from the previous year(s) on how the objective specified in condition 6-1 and the Waste Acceptance System Plan can be better achieved and/or improved.

6-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance System Plan satisfies the requirements of condition 6-2, the proponent shall immediately:

- (1) implement the approved Waste Acceptance System Plan; and

- (2) continue to implement the approved Waste Acceptance System Plan unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.

6-4 The proponent shall demonstrate compliance with condition 6-1 by annually undertaking an independent review of the Waste Acceptance System Plan, and reporting it to the CEO in the Compliance Assessment Plan required by condition 4-1.

Condition 7 is added to Statement 935

7 Waste Acceptance Monitoring and Management

7-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Demonstrate that waste types not permitted for processing, detailed in Table 2 of Schedule 1, are not accepted or processed at the Boodarie Waste-to-Energy and Materials Recovery Facility by implementing conditions 7-2 to 7-8.

7-2 Prior to commissioning, the proponent shall develop (or revise) and submit a Waste Acceptance Monitoring and Management Plan to meet the objective specified in condition 7-1, which includes the following:

- (1) detail the proposed monitoring methodology to:
 - (a) identify the supplier of each waste load;
 - (b) record all waste loads, including the quantities, received on site;
 - (c) describe the types of residual waste accepted on the site, including the source separation process for those waste types;
 - (d) record waste types disposed offsite; and
- (2) detail a procedure to summarise the results of monitoring outlined in condition 7-2(1).

7-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance Monitoring and Management Plan satisfies the requirements of condition 7-2, the proponent shall:

- (1) implement the approved Waste Acceptance Monitoring and Management Plan; and
- (2) continue to implement the approved Waste Acceptance Monitoring and Management Plan, unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.

- 7-4 The proponent shall demonstrate compliance with condition 7-1 by:
- (1) providing the summary required by condition 7-2(2) of the monitoring results in accordance with the requirements of the Waste Acceptance Monitoring and Management Plan, every six months from the date of commissioning, until the CEO has confirmed by notice, in writing, that monitoring is no longer required.
- 7-5 The proponent will retain the results of monitoring required by condition 7-4 and shall make those results available when requested by the CEO.
- 7-6 The proponent may review and revise the Waste Acceptance Monitoring and Management Plan.
- 7-7 The proponent shall review and revise the Waste Acceptance Monitoring and Management Plan as and when directed by the CEO.
- 7-8 The proponent shall implement the latest revision of the Waste Acceptance Monitoring and Management Plan, which the CEO has confirmed by notice, in writing, satisfies the requirements of condition 7-2.

Table 3 is added to Statement 935

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
EP Act	<i>Environmental Protection Act 1986</i>
ha	Hectare
Residual Waste	Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.

Table 4 is added to Statement 935

Table 4: Development Envelope Coordinates

Coordinate No.	Easting (MGA Zone 50)	Northing (MGA Zone 50)
1	660366	7740804
2	660534	7741167
3	660761	7741062
4	660593	7740699
5	660366	7740804

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO
A PROPOSAL
(Section 46 of the *Environmental Protection Act 1986*)**

RESOURCE RECOVERY FACILITY, RED HILL

Proposal: The proposal is to construct and operate a resource recovery facility within the existing Red Hill Waste Management Facility, City of Swan, for the processing of waste to produce energy, using either anaerobic digestion technology or gasification technology.

Proponent: Eastern Metropolitan Regional Council
Australian Business Number 89 631 866 056

Proponent Address: 1st Floor Ascot Place, 226 Great Eastern Highway
BELMONT WA 6984

Report of the Environmental Protection Authority: 1623

Preceding Statement/s Relating to this Proposal: 976

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 976 dated 9 July 2014, be changed as specified in this Statement.

Condition 10 is added to Statement 976

10 Residual Waste

10-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Ensure that the Red Hill Resource Recovery Facility has the ability to accept residual waste only as defined in Table 3 in Schedule 3 by implementing conditions 10-2 to 10-4.

10-2 Prior to commissioning and thereafter by 31 October each year, the proponent shall develop (or revise) and submit a Waste Acceptance System Plan to apply the objective specified in condition 10-1, which includes the following:

- (1) a description of the waste types that the facility could accept, if it only operated on residual waste;
- (2) a description of the source separation processes, as provided by the generator of the waste, for the waste streams that are accepted at the facility;

- (3) details of, and justification for, the procedures and measures that the proponent has implemented to achieve the objectives specified in condition 10-1; and
 - (4) a detailed description of the learnings from the previous year(s) on how the objective specified in condition 10-1 and the Waste Acceptance System Plan can be better achieved and/or improved.
- 10-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance System Plan satisfies the requirements of condition 10-2, the proponent shall immediately:
- (1) implement the approved Waste Acceptance System Plan; and
 - (2) continue to implement the approved Waste Acceptance System Plan unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.
- 10-4 The proponent shall demonstrate compliance with condition 10-1 by annually undertaking an independent review of the Waste Acceptance System Plan, and reporting it to the CEO in the Compliance Assessment Plan required by condition 4-1.

Condition 11 is added to Statement 976

11 Waste Acceptance Monitoring and Management

- 11-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Demonstrate that waste types not permitted for processing, detailed in Table 2 of Schedule 1 and Table 2 of Schedule 2, are not accepted or processed at the Red Hill Resource Recovery Facility by implementing conditions 11-2 to 11-8.

- 11-2 Prior to commissioning, the proponent shall develop (or revise) and submit a Waste Acceptance Monitoring and Management Plan to meet the objective specified in condition 11-1, which includes the following:
- (1) detail the proposed monitoring methodology to:
 - (a) identify the supplier of each waste load;
 - (b) record all waste loads, including the quantities, received on site;
 - (c) describe the types of residual waste accepted on the site, including the source separation process for those waste types;
 - (d) record waste types disposed offsite; and
 - (2) detail a procedure to summarise the results of monitoring outlined in condition 11-2(1).

- 11-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance Monitoring and Management Plan satisfies the requirements of condition 11-2, the proponent shall:
- (1) implement the approved Waste Acceptance Monitoring and Management Plan; and
 - (2) continue to implement the approved Waste Acceptance Monitoring and Management Plan, unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.
- 11-4 The proponent shall demonstrate compliance with condition 11-1 by:
- (1) providing the summary required by condition 11-2(2) of the monitoring results in accordance with the requirements of the Waste Acceptance Monitoring and Management Plan, every six months from the date of commissioning, until the CEO has confirmed by notice, in writing, that monitoring is no longer required.
- 11-5 The proponent will retain the results of monitoring required by condition 11-4 and shall make those results available when requested by the CEO.
- 11-6 The proponent may review and revise the Waste Acceptance Monitoring and Management Plan.
- 11-7 The proponent shall review and revise the Waste Acceptance Monitoring and Management Plan as and when directed by the CEO.
- 11-8 The proponent shall implement the latest revision of the Waste Acceptance Monitoring and Management Plan, which the CEO has confirmed by notice, in writing, satisfies the requirements of condition 11-2.

The terms and phrases are deleted and replaced with Table 3:

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
ANZECC	Australian and New Zealand Environment and Conservation Council
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or their delegate.
Criteria pollutants	Key air pollutants set by the National Environment Protection Measure for Ambient Air Quality, which includes carbon monoxide, ozone, sulphur dioxide, nitrogen dioxide, lead and particles (PM ₁₀).
DER	Department of Environment Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>
ha	hectare

Odour unit	The concentration of odourant(s) at standard conditions that elicits a physiological response from a panel (detection threshold) equivalent to that elicited by one Reference Odour Mass (ROM), evaporated in one cubic metre of neutral gas at standard conditions.
Residual Waste	Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.
tpa	Tonnes per annum

Table 4 is added to Statement 976

Table 4: Development Envelope Coordinates

Coordinate No.	Easting (MGA Zone 50)	Northing (MGA Zone 50)
1	414409	6477528
2	414413	6477114
3	414193	6477113
4	414189	6477526
5	414409	6477528

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO
A PROPOSAL**
(Section 46 of the *Environmental Protection Act 1986*)

EAST ROCKINGHAM WASTE TO ENERGY AND MATERIALS RECOVERY
FACILITY

Proposal: To build and operate a Waste to Energy and Materials Recovery Facility on Lot 1 Office Road, 3 kilometres north-east of Rockingham in the Rockingham Industrial Zone.

Proponent: New Energy Corporation Pty Ltd
Australian Company Number 139 310 053

Proponent Address: Suite 1, 12 Parliament Place
WEST PERTH WA 6005

Report of the Environmental Protection Authority: 1623

Preceding Statement/s Relating to this Proposal: 994

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 994 dated 20 January 2015, be changed as specified in this Statement.

Condition 6 is deleted and replaced with:

6 Waste Acceptance Monitoring and Management

6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Demonstrate that waste types not permitted for processing, detailed in Table 2 of Schedule 1, are not accepted or processed at the East Rockingham Waste to Energy and Materials Recovery Facility by implementing conditions 6-2 to 6-8.

6-2 Prior to commissioning, the proponent shall develop (or revise) and submit a Waste Acceptance Monitoring and Management Plan to meet the objective specified in condition 6-1, which includes the following:

- (1) detail the proposed monitoring methodology to:
 - (a) identify the supplier of each waste load;
 - (b) record all waste loads, including the quantities, received on site;

- (c) describe the types of residual waste accepted on the site, including the source separation process for those waste types;
 - (d) record waste types disposed offsite; and
 - (2) detail a procedure to summarise the results of monitoring outlined in condition 6-2(1).
- 6-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance Monitoring and Management Plan satisfies the requirements of condition 6-2, the proponent shall:
- (1) implement the approved Waste Acceptance Monitoring and Management Plan; and
 - (2) continue to implement the approved Waste Acceptance Monitoring and Management Plan, unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.
- 6-4 The proponent shall demonstrate compliance with condition 6-1 by:
- (1) providing the summary required by condition 6-2(2) of the monitoring results in accordance with the requirements of the Waste Acceptance Monitoring and Management Plan, every six months from the date of commissioning, until the CEO has confirmed by notice, in writing, that monitoring is no longer required.
- 6-5 The proponent will retain the results of monitoring required by condition 6-4 and shall make those results available when requested by the CEO.
- 6-6 The proponent may review and revise the Waste Acceptance Monitoring and Management Plan.
- 6-7 The proponent shall review and revise the Waste Acceptance Monitoring and Management Plan as and when directed by the CEO.
- 6-8 The proponent shall implement the latest revision of the Waste Acceptance Monitoring and Management Plan, which the CEO has confirmed by notice, in writing, satisfies the requirements of condition 6-2.

Condition 7 is added to Statement 994

7 Residual Waste

- 7-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Ensure that the East Rockingham Waste to Energy and Materials Recovery Facility has the ability to accept residual waste only as defined in Table 3 in Schedule 2 by implementing conditions 7-2 to 7-4.

- 7-2 Prior to commissioning and thereafter by 31 October each year, the proponent shall develop (or revise) and submit a Waste Acceptance System Plan to apply the objective specified in condition 7-1, which includes the following:
- (1) a description of the waste types that the facility could accept, if it only operated on residual waste;
 - (2) a description of the source separation processes, as provided by the generator of the waste, for the waste streams that are accepted at the facility;
 - (3) details of, and justification for, the procedures and measures that the proponent has implemented to achieve the objectives specified in condition 7-1; and
 - (4) a detailed description of the learnings from the previous year(s) on how the objective specified in condition 7-1 and the Waste Acceptance System Plan can be better achieved and/or improved.
- 7-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance System Plan satisfies the requirements of condition 7-2, the proponent shall immediately:
- (1) implement the approved Waste Acceptance System Plan; and
 - (2) continue to implement the approved Waste Acceptance System Plan unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.
- 7-4 The proponent shall demonstrate compliance with condition 7-1 by annually undertaking an independent review of the Waste Acceptance System Plan, and reporting it to the CEO in the Compliance Assessment Plan required by condition 4-1.

Tables 3 and 4 are deleted and replaced with:

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
ANZECC	Australian and New Zealand Environment and Conservation Council
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or their delegate.
EPA	Environmental Protection Authority

EP Act	<i>Environmental Protection Act 1986</i>
ha	Hectare
MW	Megawatt
OEPA	Office of the Environmental Protection Authority
Residual Waste	Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.
tpa	Tonnes per annum

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO
A PROPOSAL
(Section 46 of the *Environmental Protection Act 1986*)**

KWINANA WASTE TO ENERGY PROJECT

Proposal: To build and operate a waste to energy plant and brick making facility on Lot 9500 Leath Road, Kwinana in the Kwinana Industrial Area.

Proponent: Kwinana WTE Project Co Pty Ltd
Australian Company Number 165 661 263

Proponent Address: Lot 9500 Leath Road
KWINANA WA 6167

Report of the Environmental Protection Authority: 1623

Preceding Statement/s Relating to this Proposal: 1016

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 1016 dated 3 September 2015, be changed as specified in this Statement.

Condition 6 is deleted and replaced with:

6 Waste Acceptance Monitoring and Management

6-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Demonstrate that waste types not permitted for processing, detailed in Table 2 of Schedule 1, are not accepted or processed at the Kwinana Waste to Energy Project facility by implementing conditions 6-2 to 6-8.

6-2 Prior to commissioning, the proponent shall develop (or revise) and submit a Waste Acceptance Monitoring and Management Plan to meet the objective specified in condition 6-1, which includes the following:

- (1) detail the proposed monitoring methodology to:
 - (a) identify the supplier of each waste load;

- (b) record all waste loads, including the quantities, received on site;
 - (c) describe the types of residual waste accepted on the site, including the source separation process for those waste types;
 - (d) record waste types disposed offsite; and
- (2) detail a procedure to summarise the results of monitoring outlined in condition 6-2(1).
- 6-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance Monitoring and Management Plan satisfies the requirements of condition 6-2, the proponent shall:
- (1) implement the approved Waste Acceptance Monitoring and Management Plan; and
 - (2) continue to implement the approved Waste Acceptance Monitoring and Management Plan, unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.
- 6-4 The proponent shall demonstrate compliance with condition 6-1 by:
- (1) providing the summary required by condition 6-2(2) of the monitoring results in accordance with the requirements of the Waste Acceptance Monitoring and Management Plan, every six months from the date of commissioning, until the CEO has confirmed by notice, in writing, that monitoring is no longer required.
- 6-5 The proponent will retain the results of monitoring required by condition 6-4 and shall make those results available when requested by the CEO.
- 6-6 The proponent may review and revise the Waste Acceptance Monitoring and Management Plan.
- 6-7 The proponent shall review and revise the Waste Acceptance Monitoring and Management Plan as and when directed by the CEO.
- 6-8 The proponent shall implement the latest revision of the Waste Acceptance Monitoring and Management Plan, which the CEO has confirmed by notice, in writing, satisfies the requirements of condition 6-2.

Condition 8 is added to Statement 1016

8 Residual Waste

- 8-1 The proponent shall manage the implementation of the proposal to meet the following environmental objective:

Ensure that the Kwinana Waste to Energy Project facility has the ability to accept residual waste only as defined in Table 3 in Schedule 1 by implementing conditions 8-2 to 8-4.

8-2 Prior to commissioning and thereafter by 31 October each year, the proponent shall develop (or revise) and submit a Waste Acceptance System Plan to apply the objective specified in condition 8-1, which includes the following:

- (1) a description of the waste types that the facility could accept, if it only operated on residual waste;
- (2) a description of the source separation processes, as provided by the generator of the waste, for the waste streams that are accepted at the facility;
- (3) details of, and justification for, the procedures and measures that the proponent has implemented to achieve the objectives specified in condition 8-1; and
- (4) a detailed description of the learnings from the previous year(s) on how the objective specified in condition 8-1 and the Waste Acceptance System Plan can be better achieved and/or improved.

8-3 Prior to commissioning, and after receiving notice in writing from the CEO that the Waste Acceptance System Plan satisfies the requirements of condition 8-2, the proponent shall immediately:

- (1) implement the approved Waste Acceptance System Plan; and
- (2) continue to implement the approved Waste Acceptance System Plan unless and until the CEO has confirmed by notice, in writing, that implementation is no longer required.

8-4 The proponent shall demonstrate compliance with condition 8-1 by annually undertaking an independent review of the Waste Acceptance System Plan, and reporting it to the CEO in the Compliance Assessment Plan required by condition 4-1.

Tables 3 is deleted and replaced with:

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or their delegate.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>

Proven Grate Combustion Technology	Technology provided by a supplier with a track record in providing grate combustion systems to waste to energy resource recovery facilities, which recover energy from municipal solid waste at a similar scale to the proposal, and which is consistent with the <i>Environmental and Health Performance of Waste to Energy Technologies</i> under section 16(e) of the EP Act, April 2013.
Residual Waste	Waste that remains after the application of a best practice source separation process and recycling systems, consistent with the waste hierarchy as described in section 5 of the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act), and the Waste Strategy approved or revised from time to time under the WARR Act.
MSW	Municipal solid waste

Appendix 2: Identified decision-making authorities and recommended environmental conditions

Section 45(1) requires the Minister for Environment to consult with decision-making authorities (DMAs), and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified:

Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland

Decision-making authority	Legislation (and Approval)
1. Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> Works Approval and Licence
2. Town of Port Hedland	<i>Planning and Development Act 2005</i> Planning approval

Resource Recovery Facility, Red Hill

Decision-making authority	Legislation (and Approval)
1. Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> Works Approval and Licence
2. City of Swan	<i>Planning and Development Act 2005</i> Building and Planning Approvals

Kwinana Waste to Energy Project

Decision-making authority	Legislation (and Approval)
1. Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> Works Approval and Licence
2. Metropolitan South-West Joint Development Assessment Panel	<i>Planning and Development Act 2005</i> Planning approval
3. Economic Regulation Authority	<i>Electricity Industry Act 2004</i> Licence for electricity generation works

East Rockingham Waste to Energy and Materials Recovery Facility

Decision-making authority	Legislation (and Approval)
1. Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> Works Approval and Licence
2. Economic Regulation Authority	<i>Electricity Industry Act 2004</i> Licence for electricity generation works
3. City of Rockingham	<i>Planning and Development Act 2005</i> Planning approval

