



Application for Works Approval Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W5911/2015/1
Works Approval Holder	Kwinana WTE Project Pty Ltd
ACN	165 661 263
File Number	DER2015/002147
Premises	Kwinana WTE Project Legal description – Part of Lot 2 on Deposited Plan 419343 As defined by the plan in Schedule 1 and the coordinates in Schedule 2 of the Amended Works Approval
Date of Report	10/01/2023
Decision	Revised works approval granted

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1. Decision summary

Works Approval W5911/2015/1 is held by Kwinana WTE Project Pty Ltd (Works Approval Holder) for the Kwinana WTE Project (the Premises), located in Leath Road, Kwinana Beach.

The works approval holder lodged an application to amend the works approval requesting updates to the works approval relating to the assessed production capacity, commissioning and time limited operations. The requested amendments reflect amendments to Ministerial Statement 1016 granted by the Minister for Environment in October 2021.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Revised Works Approval W5911/5015/1 has been granted.

The Revised Works Approval issued as a result of this amendment consolidates and supersedes the existing Works Approval previously granted in relation to the Premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the Department of Water and Environmental Regulation (the department) has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 12 August 2022 the Works Approval Holder submitted an application to the department to amend Works Approval W5911/2015/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments were requested:

1. increase the assessed production or design capacity from 400,000 tonnes to 460,000 tonnes;
2. extend the duration of the works approval; and
3. allow time limited operations at the completion of the commissioning phase.

The application was supported by an *Environmental Commissioning Plan* (August 2022) and the report *Kwinana WTE Project, Revised Air Dispersion Modelling Assessment* (August 2019).

This amendment is limited only to changes to Category 60, 61 and 67 activities. No changes to the aspects of the existing Works Approval relating to Category 52 have been requested by the Works Approval Holder.

Table 1 below outlines the proposed changes to the existing Works Approval assessed throughput.

Table 1: Proposed throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity
60	45.6 tonnes per hour	57.7 tonnes per hour
61	400,000 tonnes per annum	460,000 tonnes per annum
67	45.6 tonnes per hour	57.7 tonnes per hour

2.3 Part IV of the EP Act

The Kwinana WTE project was originally assessed by the Environmental Protection Authority (EPA) at the level of Public Environmental Review under Part IV of the EP Act. The EPA published Report 1538 and the Minister for Environment granted Ministerial Statement (MS) 1016 in 2015. The key environmental factors considered by the EPA related to air quality and ash reuse, which were consolidated to the key factor of air quality.

There were three subsequent changes to the proposal or the implementation conditions as follows:

- January 2017 – s45C of the EP Act change to proposal to amend the waste types permitted to be processed to include commercial and industrial waste, and pre-sorted construction and demolition waste;
- August 2017 – s45C change to proposal to remove the reference to the grate technology provider, update the lot number of the proposal and provide a definition for ‘proven grate combustion technology; and
- March 2019 – change to the implementation conditions through MS 1093 relating to waste acceptance monitoring and management, and the ability to accept genuine residual waste only at the facility.

In 2019, the proponent requested the following changes to the proposal:

1. Change the element description of ‘waste receipt volume’ to ‘waste processing volume’;
2. Increase the waste processing volume allowance from 400,000 tpa to 460,000 tpa; and
3. Remove reference to the on-site brick making facility (condition 7).

The EPA prepared a combined Report 1718 which addressed s45C changes to the proposal (points 1 and 2) and the request from the Minister for Environment under s46 of the EP Act for the EP to inquire into a change to the implementation conditions of MS 1016 (point 3).

An amendment to MS 1016 was granted by the Minister for Environment on the above three points in February 2022.

The delegated officer notes that in Report 1718, the EPA addressed the matter of Scope 1 emissions of greenhouse gases (GHG) which are estimated at 110,574 tonnes CO₂-e per year. EPA noted that GHG emissions were not included in the original assessment (Report 1538) and that it released a guideline on GHG emissions after the commencement of its s46 of the EP Act inquiry. It noted that while GHG emissions were not considered in its inquiry, the Minister for Environment may choose to request an additional s46 inquiry into whether implementation conditions for MS 1016 should be changed as a result of GHG emissions.

The delegated officer notes that the works approval amendment application request to increase the assessed production capacity from 400,000 tpa to 460,000 tpa has been assessed by EPA in Report 1718 and approved by the Minister for Environment in amendments to MS1016.

Under Section 54 of the EP Act, DWER is not to grant or refuse a Works Approval “contrary to, or otherwise than in accordance with” a decision under Part IV of the EP Act. MS 1016 sets requirements related to ‘waste acceptance monitoring and management plan’ and ‘ash Characteristics and reuse.’ Based on the requirements of MS 1016 and the EPA’s advice in Report 1538, the works approval is limited to primarily regulating:

- design and construction of infrastructure to achieve required emissions risk outcomes; and
- air emissions during the commissioning phase including monitoring, limits and reporting.

It is noted that the MS 1016 requires the proponent to submit a Waste Acceptance Monitoring and Management Plan (WAMMP). Key elements of the WAMMP are record keeping to provide traceability for:

- Supplier of each waste load;
- Amount of waste accepted on site;
- Waste types/categories accepted (MSW, MRF residuals, alternative waste treatment residuals);
- Waste types fed into the combustion chamber; and
- Waste types disposed off site.

The delegated officer understands that a draft WAMMP has been submitted to the department, but is yet to be finalised. MS 1016 requires that the final WAMMP is submitted and approved prior to commissioning of the facility.

3. Air Dispersion Modelling

The works approval holder included *Kwinana WTE Project, Revised Air Dispersion Modelling Assessment*, August 2019 (Air Modelling Report) in support of the application. The delegated officer noted that this report was considered by EPA in its assessment documented in Report 1718. The Air Modelling Report underwent technical review by the department as part of EPA's assessment and was found to be fit for purpose with conservative emission rates. The delegated officer therefore did not duplicate technical analysis of the Air Modelling Report for the purposes of this assessment.

The key conclusions on the Air Modelling Report in the EPA Report 1718 were that:

- Although there are slight increases predicted in some pollutant emissions, all emissions are well within the relevant criteria and meet the European Union Industrial Emissions Directive (IED) 2010 standards;
- The works approval regulates the verification of emissions through monitoring during the commissioning period, which addresses comments from the Department of Health;
- Air emissions, including monitoring and reporting requirements during both construction and operations, can be regulated by DWER under Part V of the EP Act;
- DWER had advised that the originally assessed risk, based on maximum possible emissions, would not alter as a result of the minor predicted change to emissions.

EPA Report 1718 noted that there would be a slight increase in the highest 1-hour average NO₂ ground level concentrations (GLC) from 21% of the criteria to 25% of the criteria.

3.1 Commissioning plan

The works approval holder submitted a detailed commissioning plan with the application. The plan includes:

- Construction verification
- Cold and hot commissioning
- CEMS calibration
- Upset conditions and response.

The delegated officer reviewed the commissioning plan noting that in general, the plan appeared consistent with the specific commissioning phase obligations in the existing works approval.

4. Source-pathways and receptors

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020). To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

4.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the control measures the Works Approval Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Works Approval Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Handling of waste	Air/windborne pathway	<p>Rapid roller doors to be installed at entry and exit points to the Tipping Hall and remain closed when trucks are not passing through the door;</p> <p>Air curtain to be installed on the entry and exit points to the Tipping Hall and function whenever the doors are open;</p> <p>Negative pressure will be maintained in the Tipping Hall and Waste Bunkers at all times by the extraction of primary air from the Waste Bunkers for the incinerator;</p> <p>Mechanical and manual cleanup of spilled material from trafficable roads and the Waste Receptions Hall will occur whenever waste material is present on the grounds</p>
Odour	Storage and handling of waste	Air/windborne pathway	<p>Rapid roller doors to be installed at entry and exit points to the Tipping Hall and remain closed when trucks are not passing through the door;</p> <p>Air curtain to be installed on the entry and exit points to the Tipping Hall and function whenever the doors are open;</p> <p>Negative pressure will be maintained in the Tipping Hall and Waste Bunkers at all times by the extraction of primary air from the Waste Bunkers for the incinerator</p> <p>Should both incinerators be off line for an extended period waste will be removed from the bunkers and disposed off-site.</p>
Emissions to air	Incineration	Air/windborne pathway	<ul style="list-style-type: none"> • Gas cooling tower; • Hydrated lime injection system; • Activated carbon injection system; • Bag filter; • Continuous Emissions Monitoring System (CEMS). • Automated combustion control system • Urea injection

4.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Works Approval Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential area	2.9 km from the boundary
Naval base hotel	1.2 km northeast
Industrial area	Immediately adjacent
Environmental receptors	Distance from prescribed activity
Cockburn sound	750 metres
Groundwater	4 metres below ground level.

5. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website (30/9/2022)	None received	N/A
Local Government Authority advised of proposal 30/9/2022	The City of Kwinana replied (17/10/2022) that their only concern was increased traffic but after liaising with the works approval holder confirmed that they had no concerns or objections (21/10/2022).	N/A
EPA was advised on 16/9/2022	EPA replied that there was nothing of concern in this application and it was consistent with Ministerial Statements 1016 and 1182.	NA
Works Approval Holder provided with a draft decision 1/12/2022	Works Approval Holder replied on 12/12/2022 requesting that the tonnes per hour for Category 60 and 67 be increased to 57.5 tonnes per hour because the lower calorific value of the fuel means an increase of fuel	The Delegated Officer agrees with the calculations supplied by the Works Approval Holder and that the proposed increase will not increase the assessed risk therefore increased the

Consultation method	Comments received	Department response
	consumption consistent with the ministerial statement.	assessed fuel burning rate to 57.5 tonnes per hour.

6. Decision

The delegated officer determined to grant an amended works approval, subject to conditions commensurate to the assessed risk of emissions and discharges. In general, the delegated officer considered that the requested changes did not alter the previously assessed risk profile of emissions and discharges, and had been assessed and are regulated through an approval under Part IV of the EP Act.

Decision-making in the three specific areas of amendment requested by the works approval holder are further discussed below.

The delegated officer has determined that the increase in throughput from 400,000 tonnes to 460,000 tonnes can be implemented without a significant increase in risk to the environment. In reaching this decision the delegated officer has taken into account the following points:

- the recommendations of the EPA and Ministerial Statement 1016, and;
- the updated dispersion modelling showing low impacts of the increased production

The delegated officer agreed with the addition of time limited operations conditions to the works approval. This will bring the works approval into line with the current format and allow the facility to operate during the transition from works approval to licence.

For time limited operations the delegated officer has changed the standard for CEMS to European Standard EM 14181:2014 *Stationary source emissions -Quality assurance of automate measuring systems* (EM14181:2014) because it better represents the CEMS that are in use

Additional reporting conditions have been added to bring the works approval into line with current format and better meet the needs of time limited operations.

6.1 Production capacity

The delegated officer amended the works approval to specify an increase of the assessed production capacity of Category 61(A): Solid Waste Facility to 460,000 tpa. The delegated officer took into account the EPA assessment in Report 1718, including its consideration of the Air Modelling Report that was the subject of technical review and advice by the department. In summary, there were slight increases predicted in some pollutant emissions, however all emissions were predicted to be well within the relevant criteria and meet required IED standards. Amending the assessed production capacity on the works approval to 460,000 tpa is consistent with February 2022 amendments to MS 1016 and does not alter the previously assessed risk profile of emissions and discharges under the works approval. The existing conditions on the works approval remain appropriate and adequate for managing risks associated with emissions.

6.1.1 Prescribed premises category production capacity updates

In amending the assessed production capacity for category 61(A), the delegated officer noted errors in the reference to assessed production/design capacities for other specified categories. These were corrected as follows:

- Category 60 (Incineration) – deleted the reference to ‘400,000 tpa’ and made 57.5 tph as the production or design capacity for the category relates to the amount of waste incinerated per hour.
- Category 67 (Fuel burning) – deleted reference to ‘400,000 tpa’ and made 57.5 tph as the

production or design capacity for the category relates to the amount of fuel (gaseous, liquid or solid) burnt per hour in aggregate.

6.2 Works approval duration

Taking into account commissioning and time limited operation timeline information from the works approval holder, the delegated officer has amended the works approval to extend its expiry until 30 June 2025. It is expected that the works approval holder will commence time limited operations in 2024 and apply for a licence at this time.

6.3 Time limited operations

The delegated officer amended the works approval to include provision for the works approval holder to undertake a six month period of time limited operations (TLO) under the works approval consistent with the *Industry Regulation Guide to Licensing*. The works approval holder will be required to complete commissioning, including the submission of its commissioning report prior to transitioning to TLO. The works approval holder is expected to apply for a licence at the commencement of the TLO phase.

TLO conditions are based on the department's operational phase risk assessment outcomes for the original works approval application assessment and reflect controls implemented through the design and construction of infrastructure under the works approval. This includes infrastructure requirements, ongoing CEMS and stack monitoring requirements for air emission sources and air emission limits. The delegated officer has extended the TLO infrastructure operational requirements to the commissioning phase.

The delegated officer noted the original works approval assessment determined that a future licence will include conditions regarding continuous monitoring of emissions, stack testing, maintaining air pollution control equipment, response to upset conditions and reporting.

Noting that the works approval specified CEMS are to comply with the department's CEMS Code, the delegated officer sought input from the works approval holder and changed the reference to the European Standard EM 14181:2014. The change addresses limitations in the CEMS Code in its application to continuous monitoring of parameters beyond combustion gases.

The delegated officer has determined that TLO conditions include a requirement that there is no bypass of the air pollution control system whilst waste is being burnt and a requirement to control odour by emptying the bunkers if both incineration lines are not operating. These requirements reflect applicant controls in the works approval holder's odour management plan and are consistent with the risk profile for managing the emission risks associated with upset conditions.

7. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Works Approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

7.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Works Approval as part of the amendment process.

Table 5: Summary of works approval amendments

Condition no.	Proposed amendments
Cover page	Expiry date amended to 30 June 2025
Cover Page	Cadastral details have been updated.
Cover page	Throughput of waste amended to 460,000 tonnes per annum and incineration and fuel burning capacities amended to 57.7 tph.
Condition 8, 9 and 13	Updated CEMS monitoring and compliance reporting requirements for the commissioning phase.
Condition 11 and 12	Included conditions requiring commissioning to be undertaken in accordance with the TLO operational and process monitoring requirements.
Conditions 16 to 26	Included conditions authorising time limited operation for a period of six months subject to specified operational requirements, monitoring requirements and compliance reporting.
Condition 27	Addition of current standard condition for the recording of complaints
Condition 28	Update of condition 13 in existing works approval to current format.
Table 8 Definitions	New definitions for; CEO, Department, EM14181:2014, quarterly, Environmental Commissioning Report and time limited operations.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Environmental Protection Authority (EPA) 2015 Report 1538, Report and recommendations of the Environmental Protection Authority Kwinana Waste to Energy Project
5. Environmental Protection Authority (EPA) 2021 Report 1718, Kwinana Waste to Energy Project – inquiry under section 46 of the Environmental Protection Act 1986 to amend Ministerial Statement 1016.
6. Avertas Energy Limited 2022, Application for a works approval amendment under the Environmental Protection Act 1986 (including application form and attachments), received 12 August 2022 (DWERDT644687)

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to works approval	<input checked="" type="checkbox"/>	Current works approval number:	W5911/2015/1
Date application received	12/8/2022		
Applicant and Premises details			
Applicant name/s (full legal name/s)	Kwinana WTE Project Co Pty Ltd		
Premises name	Kwinana WTE Project		
Premises location	Part of Lot 2 on Plan 419343; within the coordinates 1:E384720.47, N6435668.39; 2:E384980.06, N6435668.44; 3:E384979.59, N6435538.32 and 4:E384704.40, N6435538.35		
Local Government Authority	City of Kwinana		
Application documents			
HPCM file reference number:	DER2015/002147		
Key application documents (additional to application form):	Commissioning Plan Air modelling for increase in production		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	Works approval amendment Increase throughput from 400,000 tonnes to 460,000 tonnes Change waste receival volume to waste processing volume Extend the period of the works approval to 31 December 2022 Addition of time limited operations conditions to the works approval Update of commissioning plant		
Category number/s (activities that cause the premises to become prescribed premises)			
Table 1: Prescribed premises categories			
Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)	
52: Electric Power Generation	36 MW	NA	
60: Incineration	400, 000 tonnes per annum	460,000 tonnes per annum	
61(A): Solid waste facility	400, 000 tonnes per annum	460,000 tonnes per annum	
67: Fuel Burning	400, 000 tonnes per annum	460,000 tonnes per annum	
Legislative context and other approvals			
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Report 1718 amendment to MS No. 1016	

		Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 1016 EPA Report No: 1538
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input checked="" type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Works Approval amendment not affecting planning approvals.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>

<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i>, <i>Environmental Protection (Controlled Waste) Regulations 2004</i>, <i>State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Environmental Protection (Controlled Waste) Regulations 2004</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>If Yes include details of which EPP(s) here. Kwinana EPP</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>If Yes, include details here, e.g. Site is subject to SO₂ requirements of Kwinana EPP.</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification: contaminated – restricted use (C–RU) Date of classification: 7/11/2008</p>