Environmental Assessment Report

Boiler Replacement

Smithton

Greenham Tasmania Pty Ltd

April 2020
## Environmental Assessment Report

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Greenham Tasmania Pty Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal</td>
<td>Replacement of existing Boiler</td>
</tr>
<tr>
<td>Location</td>
<td>2 &amp; 4 Bacon Factory Road, Smithton</td>
</tr>
<tr>
<td>NELMS no.</td>
<td>PCE. 258183</td>
</tr>
<tr>
<td>Permit Application No.</td>
<td>DA 2019/081 Circular Head Council</td>
</tr>
<tr>
<td>Electronic Folder No.</td>
<td>EN-EM-EV-DE-258183</td>
</tr>
<tr>
<td>Document No.</td>
<td>M615628</td>
</tr>
<tr>
<td>Class of Assessment</td>
<td>2A</td>
</tr>
</tbody>
</table>

## Assessment Process Milestones

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 July 2019</td>
<td>Permit Application submitted to Council</td>
</tr>
<tr>
<td>23 July 2019</td>
<td>Referral received by the Board</td>
</tr>
<tr>
<td>22 August 2019</td>
<td>Guidelines Issued</td>
</tr>
<tr>
<td>22 February 2020</td>
<td>Start of public consultation period</td>
</tr>
<tr>
<td>10 March 2020</td>
<td>End of public consultation period</td>
</tr>
<tr>
<td>6 April 2020</td>
<td>Date draft conditions issued to proponent</td>
</tr>
<tr>
<td>20 April 2020</td>
<td>Statutory period for assessment ends</td>
</tr>
<tr>
<td>Acronyms</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Air EPP</td>
<td>Environment Protection Policy (Air Quality) 2004</td>
</tr>
<tr>
<td>Air NEPM</td>
<td>National Environment Protection Measure for Ambient Air Quality</td>
</tr>
<tr>
<td>Board</td>
<td>Board of the Environment Protection Authority</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon monoxide</td>
</tr>
<tr>
<td>DPIPWE</td>
<td>Department of Primary Industries, Parks, Water and Environment</td>
</tr>
<tr>
<td>EER</td>
<td>Environmental Effects Report</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental impact assessment</td>
</tr>
<tr>
<td>EMPC Act</td>
<td>Environmental Management and Pollution Control Act 1994</td>
</tr>
<tr>
<td>EMPCS</td>
<td>Environmental management and pollution control system</td>
</tr>
<tr>
<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</td>
</tr>
<tr>
<td>LUPA Act</td>
<td>Land Use Planning and Approvals Act 1993</td>
</tr>
<tr>
<td>Noise EPP</td>
<td>Environment Protection Policy (Noise) 2009</td>
</tr>
<tr>
<td>Nm³</td>
<td>Cubic metres of dry gas at 0°C and 101.325kPa</td>
</tr>
<tr>
<td>NOx</td>
<td>Nitrogen oxides</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Particulate matter of particle size less than 10µm in diameter.</td>
</tr>
<tr>
<td>RMPS</td>
<td>Resource management and planning system</td>
</tr>
<tr>
<td>SD</td>
<td>Sustainable development</td>
</tr>
</tbody>
</table>
Report Summary

This report provides an environmental assessment of a boiler replacement at Greenham Tasmania Pty Ltd's abattoir at 2 & 4 Bacon Road, Smithton. It involves installation of a new wood chip fired boiler, which will burn fuel at a rate of up to 4 tonnes of woodchips per hour, replacing an existing coal/pyrethrum fired boiler.

This report has been prepared based on information provided in the permit application and Environmental Effects Report (EER). Relevant government agencies and the public were consulted, and their submissions, representations and comments considered as part of the assessment.

Further details of the assessment process are presented in section 1 of this report. Section 2 describes the statutory objectives and principles underpinning the assessment. Details of the proposal are provided in section 3. Section 4 reviews the need for the proposal and considers the alternatives. Section 5 summarises the public and agency consultation process. The detailed evaluation of environmental issues is contained in section 6. The report conclusions are contained in section 7.

Appendix 1 contains a list of commitments made by the proponent. Appendix 2 contains the environmental permit conditions for the proposal.
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I Approval Process

An application for a permit under the Land Use Planning and Approvals Act 1993 (LUPA Act) in relation to the proposal was submitted to Circular Head Council on 11 July 2019.

The proposal is defined as a ‘level 2 activity’ under clause 7(a), schedule 2 of the Environmental Management and Pollution Control Act 1994 (EMPC Act), being the operation of a boiler burning woodchips at a rate of up to approximately 4 tonnes per hour. The proposal is for replacement of an existing boiler which is currently regulated as a level 2 activity. An application for a permit under LUPAA is required because the proposed boiler will be located on a different land parcel to the existing boiler, will be burning a different material, has a greater fuel burning capacity, and will have new emission points.

Under section 25(1) of the EMPC Act, Council was required to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 23 July 2019.

The assessment has been undertaken by the Director, Environment Protection Authority under delegation from the Board.

The Board required that information to support the proposal be provided in the form of an Environmental Effects Report (EER) prepared in accordance with guidelines issued on 22 August 2019.

Several drafts of the EER were submitted to EPA Tasmania for review against the guidelines before it was finalised. The EER was released for public inspection for a 14-day period commencing on 22 February 2020. An advertisement was placed in the Advocate and on the EPA website. The EER was also referred to relevant government agencies for comment. No representations were received.
2 SD Objectives and EIA Principles

The proposal must be considered by the Board in the context of the objectives of the Resource Management and Planning System of Tasmania (RMPS), and in the context of the objectives of the Environmental Management and Pollution Control System (EMPCS) (both sets of objectives are specified in Schedule 1 of the EMPC Act). The functions of the Board are to administer and enforce the provisions of the Act, and to use its best endeavours to further the RMPS and EMPCS objectives.

The Board must assess the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of the EMPC Act.

The assessment has been undertaken by the Director, Environment Protection Authority under delegation from the Board.
### 3 The Proposal

The proposal is to operate a 10MW woodchip boiler at Greenham Tasmania Pty Ltd’s abattoir in Smithton. The boiler will replace an existing 10MW boiler, fuelled by coal and pyrethrum briquettes, which is approaching the end of its working life. The current proposal required assessment as it is on a different land parcel to the existing boiler it is to replace, will be burning a different material to the existing burner, with a greater fuel burning capacity, and will have new emission points. The boiler will be used to produce steam for rendering plant cookers and hot water production for factory operations. The proposal will result in approximately 2 truck deliveries per day to supply woodchips from timber mills located in Smithton.

A backup boiler is also present on the adjoining abattoir site. A separate approval process will be undertaken for this boiler, and hence it does not form part of this assessment.

The main characteristics of the proposal are summarised in Table 1. A detailed description of the proposal is provided in Section B of the EER.

#### Table 1: Summary of the proposal’s main characteristics

<table>
<thead>
<tr>
<th>Activity</th>
<th>Location and planning context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation of a boiler burning up to 4 tonnes of woodchips per hour.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>2 &amp; 4 Bacon Factory Road, Smithton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land zoning</td>
<td>General Industrial</td>
</tr>
<tr>
<td>Land tenure</td>
<td>Freehold, CT 33432/4. The title is currently subject to consolidation of the titles with the main abattoir title 35716/1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
</tr>
<tr>
<td>Infrastructure</td>
</tr>
<tr>
<td>Topography</td>
</tr>
<tr>
<td>Hydrology</td>
</tr>
<tr>
<td>Natural Values</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate</td>
</tr>
</tbody>
</table>
### Surrounding land zoning, tenure and uses

The site is located within an industrial area and surrounded by land zoned as General Industrial to the east, south and west, light industrial to the north and commercial to the north-east.

Four residences are located at 11, 12, 13 and 14 Bacon Factory Road, approximately 100m to the east, and are within the general industrial zone (Figure 2). The two closest residences (11 and 12 Bacon Factory Road) are owned by the proponent.

Rural dwellings are located 400m to the north, 990m to the west, 900m to the south and 1,000m to the east-south-east.

No reserved areas are located within or adjacent to the proposal site.

### Proposed infrastructure

<table>
<thead>
<tr>
<th>Major equipment</th>
<th>Justen Energetiknick 10MW wood chip fired steam boiler.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other infrastructure</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Inputs

<table>
<thead>
<tr>
<th>Water</th>
<th>No water inputs are detailed for the boiler.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Fuel (Diesel/Petrol) for transport of woodchips</td>
</tr>
<tr>
<td>Other raw materials</td>
<td>Wood chips to fuel boiler (approximately 11,863 tonnes per year)</td>
</tr>
</tbody>
</table>

### Wastes and emissions

<table>
<thead>
<tr>
<th>Liquid</th>
<th>Blowdown water from the boiler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmospheric</td>
<td>Particulate matter (PM10 and PM2.5) and combustion gases including oxides of nitrogen, (NOx), Carbon Monoxide (CO) and oxides of Sulfur (SOx) A backup oil fuelled boiler also exists as part of the adjoining abattoir site, which also produces combustion gases.</td>
</tr>
<tr>
<td>Solid</td>
<td>Ash from the boiler operations.</td>
</tr>
<tr>
<td>Controlled wastes</td>
<td>Waste lubricants/oils from machinery use.</td>
</tr>
<tr>
<td>Noise</td>
<td>Noise emissions will primarily be from fans associated with the boiler.</td>
</tr>
<tr>
<td>Greenhouse gases</td>
<td>Estimates found a net reduction in greenhouse gas emissions from operation of the existing boiler, based on the combined values of the emissions from the new boiler fuel and change in transport emissions.</td>
</tr>
</tbody>
</table>

### Construction, commissioning and operations

<table>
<thead>
<tr>
<th>Proposal timetable</th>
<th>Construction of civil works expected to take 3 months. Installation and commissioning of boiler expected over 4 week period. Once commissioned, the existing pyrethrum fuelled boiler will be decommissioned.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating hours (ongoing)</td>
<td>The abattoir operates 5 days per week, The proposed boiler will operate 23 hours a day</td>
</tr>
</tbody>
</table>
Figure 1: Location Plan of Bacon Factory Road and surrounds. Adapted from Greenham Tasmania Pty Ltd Proposed Boiler Replacement EER V3 (Appendix 6), 2020
Figure 2: Site Plan. Adapted from Greenham Tasmania Pty Ltd Proposed Boiler Replacement EER V3 (Appendix 6), 2020
Figure 3 Site Plan detail. Adapted from Greenham Tasmania Pty Ltd Proposed Boiler Replacement EER V3 (Appendix 6), 2020
4 Need for the Proposal and Alternatives

The new boiler is proposed to replace an existing pyrethrum and coal fuelled boiler which is approaching the end of its working life at the adjoining abattoir site. The EER states that immediate replacement is required to ensure continuity of plant operation. Several options were considered, including boilers fuelled by LPG, coal, pyrethrum and oil. The boiler is necessary for heating water for abattoir operations.

The proponent selected a woodchip fuelled boiler based on the local availability of an ongoing supply of fuel. The pyrethrum fuelled option was rejected due to supply risk, and the fossil fuel fired options were rejected due to the proponent’s preference for a renewable fuel source. The use of woodchips as a fuel source also provided benefit due to nearby proximity of woodchips (4km round trip), compared with pyrethrum (240km round trip), reducing transport requirements.
5 Public and Agency Consultation

No public representations were received.

The following Divisions/areas of the Department of Primary Industries, Parks, Water and Environment provided advice on the EER:

- Regulatory Officer, EPA Tasmania
- Air Specialist, EPA Tasmania
- Noise Specialist, EPA Tasmania
6 Evaluation of Environmental Issues

EPA Tasmania has evaluated environmental issues considered relevant to the proposal. Details of this evaluation, along with the permit conditions required by the Director, are discussed below:

The following issues are discussed:
1. Air emissions
2. Noise emissions
3. Solid wastes and wastewater disposal
4. Environmentally hazardous substances
5. Decommissioning and Rehabilitation

General conditions
The following general conditions will be imposed on the activity:

- **G1** Access to and awareness of conditions and associated documents
- **G2** Incident response
- **G3** No changes without approval
- **G4** Change of responsibility
- **G5** Change of ownership
- **G6** Complaints register

Legal obligations
The following legal obligations are detailed in the permit:

- **L02** EMPCA
- **L03** Storage and handling of dangerous goods, explosives and dangerous substances

Other information:

Other information included in the permit

- **O11** Waste Management hierarchy
- **O12** Notification of incidents under section 32 of EMPCA
### Issue 1: Air Emissions

#### Description of potential impacts

Wood fired boilers emit combustion products such as particulate matter (PM), oxides of nitrogen (NOx), carbon monoxide (CO), oxides of sulphur (SOx) and volatile organic compounds (VOCs) from wood and bark. There is also the potential for the boiler to cause nuisance dust from woodchips and ash. The proposed 10MW wood fired boiler has the potential to cause an environmental nuisance and to impact human health through the discharge of these pollutants if not appropriately managed. The proposal site is located within an existing industrial area, with nearest residences located approximately 100m to the east within the general industrial zone (Figure 2).

The air emissions assessment commissioned by the proponent provided the following emission rates for the proposed boiler (adapted from Table 2, Appendix 1 of the EER).

<table>
<thead>
<tr>
<th>Emitted Substance</th>
<th>Proposed boiler in-stack emission concentration (mg/m³)</th>
<th>Air EPP in stack concentration limit (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total particulate matter</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>NOx (as NO₂)</td>
<td>483</td>
<td>500</td>
</tr>
<tr>
<td>CO</td>
<td>1,931</td>
<td>Not specified</td>
</tr>
<tr>
<td>SO₂</td>
<td>97</td>
<td>Not specified</td>
</tr>
</tbody>
</table>

These results are presented in relation to in-stack limits specified in Schedule 1 of the Environment Protection Policy (Air Quality) 2004 Air EPP, which are expected to be achievable using acceptable modern technology.

The air emissions assessment commissioned by the proponent predicted the following worst-case pollutant concentrations of substances emitted from the boiler beyond the site boundary (adapted from Table 4, Appendix 1 of the EER):

<table>
<thead>
<tr>
<th>Emitted Substance</th>
<th>Prediction - Highest conc beyond site boundary</th>
<th>Air EPP design criterion</th>
<th>Proportion of design criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Backup and proposed boiler</td>
<td>Proposed boiler only</td>
<td>Backup and proposed boiler</td>
</tr>
<tr>
<td>Total Particulate matter (24 hour average)</td>
<td>24µg/m³</td>
<td>3.7µg/m³</td>
<td>150µg/m³</td>
</tr>
<tr>
<td>NOx (1 hour average)</td>
<td>110µg/m³</td>
<td>80µg/m³</td>
<td>0.16ppm or 330ug/m³</td>
</tr>
<tr>
<td>CO (8 hour average)</td>
<td>1400µg/m³</td>
<td>260µg/m³</td>
<td>9 ppm or 11250ug/m³</td>
</tr>
<tr>
<td>SO₂ (1 hour average)</td>
<td>20µg/m³</td>
<td>15µg/m³</td>
<td>0.2 ppm or 570ug/m³</td>
</tr>
</tbody>
</table>

These results are presented in relation to design criterion specified in Schedule 2 of the Air EPP.
**Management measures proposed in EER**

- Undertake post commissioning Air Quality monitoring to ensure compliance with the Air EPP
- Undertake ongoing Air quality monitoring to ensure compliance with Air EPP
- Install system as designed to reduce emissions to ensure compliance with Air EPP. This includes a multicyclone and baghouse abatement systems and 18m stack, as detailed in Appendix 1 of the EER. Note that modelling assumes this system is in place.
- Install wood chip visual moisture monitoring. The woodchips will be housed inside a walking floor trailer that is completely covered and will not be affected by rainfall.
- The woodchips are a residue from milling operations, and will always be a consistent size.

**Public and agency comment**

No comment received

**Evaluation**

This assessment applies specifically to the construction of a new wood chip fuelled boiler, however the use of the back-up oil fuelled boiler by the abattoir at the adjoining site should also be considered. The emissions report commissioned by the proponent assessed the emissions from the proposed boiler as well as the cumulative emissions to air from both boilers operating continuously, which is only expected for a short period each day. Therefore, the results presented for assessment of the proposed new boiler are considered to be conservative.

The Air EPP provides guidance for protection of the ambient air environment of Tasmania. It specifies limits (at reference conditions) on in-stack concentrations of wood fired boilers, expected to be achievable using accepted modern technology. The air emission assessment results (detailed above and in Figure 2 and Appendix 1 of the EER) indicate that operation of the new boiler is expected to result in in-stack concentrations below the limits.

The Air EPP also specifies a maximum ground level concentration for particulates and combustion gases associated with wood-fired boiler operation at or beyond the boundary of the Land. As summarised above, combustion products from the boiler are predicted to fall below the limits set by the design criteria, with a maximum percentage proportion of the set values of 16% for PM$_{10}$, 33% for NO$_x$, 12% for CO and 3.2% of SO$_2$. This applies to the worst-case scenario when the proposed boiler and backup boiler are operating simultaneously, which is only considered likely for a limited period during operation. Residual emission compounds predicted in the air emissions assessment (detailed above and in Figure 4 and Appendix 1 of the EER) were found likely to fall significantly below any recommended values. Therefore, the predictions show that the identified substances emitted from the boiler are likely to comply with the Air EPP design criteria.

It is considered likely that reserve capacity for additional pollutant emissions in the surrounding airshed (area defined by natural or topographic features affecting air quality) will be maintained, as required by the Air EPP, based on the results presented.

Management measures proposed in the EER are considered appropriate. It should be noted that the modelling results presented assume that the system is installed according to manufacturer specifications, including features such as multicyclone and baghouse abatement systems and an 18m stack.
The proposed external Air Quality monitoring is supported, although not considered necessary given the results of the modelling which are considered to be conservative. Instead, the permit will impose atmospheric emission limits of in-stack concentrations for the proposed boiler in **Condition A1**, reflecting the limits specified in the Air EPP. It is expected that the boiler will comply with these limits, and stack tests specified in **Condition A2** will be required to demonstrate compliance, and must be carried out within 90 days of completion of commissioning, then annually thereafter unless otherwise approved by the Director. **Condition A3** ensures that appropriate stack testing facilities are to be available for stack testing as required by the permit conditions. Measures proposed in relation to wood chip moisture and dust are considered appropriate, no conditions will be required.

**Conclusion**

The proponent will be required to comply with the following conditions:

- **A1** Stack emission limits
- **A2** Stack testing frequency
- **A3** Stack testing facilities
### Issue 2: Noise Emissions

#### Description of potential impacts

Excessive noise emissions can create an environmental nuisance if there are not adequate separation distances between noise generating equipment and sensitive receptors. The proposed wood fired boiler will result in noise emissions, most significantly from fans used to assist an efficient combustion process. The adjoining Greenham site has existing constant noise sources, such as refrigerator units, other plant, the existing boiler, and variable sources such as forklifts, trucks and employee cars. The proposal site is located in an existing industrial area, with nearest residences in other ownership located approximately 100m to the east in the general industrial zone (Figure 2). The two closest residences (11 and 12 Bacon Factory Road) are owned by the proponent.

The proponent commissioned an acoustic assessment for the EER for the proposed boiler replacement. The assessment measured existing noise levels at the site and considered potential noise effects at the nearby noise sensitive premises.

Noise emissions from the site occur over a 24 hour cycle, and vary depending on the time of day. Times of the day are divided into the following periods in the *Tasmanian Noise Measurements Procedures Manual (2008)*:

- **Day**: 0700 hours to 1800 hours
- **Evening**: 1800 hours to 2200 hours
- **Night**: 2200 hours to 0700 hours the following day

The acoustic assessment found noise levels attributed to the Greenham site were within the range of 46-49 dB(A) Leq during the day, and 40-44 dB(A) Leq during the night period. The Leq, or equivalent noise level, is commonly used to describe the ‘average’ sound level, being the level of a continuous noise that has the same sound energy as the noise under investigation. When tonally adjusted according to the *Tasmanian Noise Measurements Procedures Manual (2008)*, the adjusted range for the night period was 42-46 dB(A).

L90 levels measured from the site were commonly in the 45-50 dB(A) range during the day and 40-45 dB(A) during the night. L90 measurements are used to describe noise exceeded 90% of the time and are representative of lower noise levels.

Noise levels attributable to the proposed new boiler alone, modelled at the nearest sensitive premises in other ownership (from Table 4 of Appendix 2 of the EER) are:

<table>
<thead>
<tr>
<th>Noise sensitive premises</th>
<th>Day</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Bacon Factory Rd</td>
<td>38 dB(A)</td>
<td>22 dB(A)</td>
</tr>
<tr>
<td>14 Bacon Factory Rd</td>
<td>41 dB(A)</td>
<td>25 dB(A)</td>
</tr>
</tbody>
</table>

These modelled levels are representative of no mitigation measures (i.e. unlined boiler house and bare ID fan discharge point).

#### Management measures proposed in EER

- Undertake post commissioning monitoring at sensitive receptors to ensure compliance with *Environment Protection Policy (Noise) 2009*
Public and agency comment

No comment received.

Evaluation

Several principles of the Environment Protection Policy (Noise) 2009 should be taken into account when assessing the noise impacts of this proposal. These include recognising shared responsibility for sources of noise, and considering cumulative impacts on particular receiving environments of noise generated by multiple activities and growth in noise output arising from intensification of use over time. The EER notes there is no history of complaints in relation to existing noise from the site.

Noise emissions from the boiler will vary over the 24 hour period of operation of the boiler, with reduced noise output during the night period as fans slow in response to demand. The L90 measurements provided in the acoustic assessment are considered a realistic indicator of plant noise considering the acoustic environment. Measurements from the acoustic assessment indicate that noise levels at the nearest sensitive premises in other ownership, taking into account the existing boiler noise and acoustic environment, are likely to result in L90 levels of:

- 52 dB(A) between 0700 hours and 1800 hours (Day time)
- 46 dB(A) between 1800 hours and 2200 hours (Evening time)
- 42 dB(A) between 2200 hours and 0700 hours (Night time)

EPA Tasmania’s noise specialised advised that on this basis, noise levels from the proposed boiler without mitigation measures, as detailed in the above table (from Table 4 of Appendix 2 of the EER), will be significantly below existing levels at the nearest sensitive premises. Therefore the boiler will not result in significant additional noise sources from the current operation.

To confirm that actual noise levels from the proposed new boiler are as predicted in the above table (from Table 4 of Appendix 2 of the EER), the proponent will be required to show that noise from the boiler, following commissioning, agrees with the assumed sound power outputs in the noise modelling for this assessment. The permit will require a post commissioning noise report in condition N1 to confirm that noise emission levels from the boiler during operation do not exceed 45 dB(A) during the day, 35 dB(A) in the evening, and 30 dB(A) at night. This is reflected by proponent’s proposed management measure, to carry out post commissioning monitoring.

Conclusion

The proponent will be required to comply with the following conditions:

N1 Post commissioning noise survey requirements
## Issue 3: Solid Wastes and Wastewater Disposal

### Description of potential impacts

Wastewater (effluent) from boiler operations has the potential to impact on surface water quality if discharged to the environment. Wastewater currently produced on site is managed via a wastewater treatment plant for pre-treatment prior to discharge to the sewerage system. Operation of the boiler will produce wastewater in the form of blowdown water, which will be treated by the existing wastewater treatment plant.

Excessive waste accumulation and generation can increase the risk of environmental contamination and result in unnecessary disposal to landfill. Ash from burning woodchips in the proposed boiler will result in solid wastes. Expected ash production from the boiler operation is 116.5 kg per annum, based on an estimated 1% ash yield dry weight.

### Management measures proposed in EER

- Use ash within composting operations as a carbon source (sic).

### Public and agency comment

No comment received.

### Evaluation

The treatment of blowdown water from the boiler by the existing wastewater treatment plant is considered suitable. The EER states that the existing trade waste pre-treatment plant has adequate capacity for current wastewater loads, and the expected load is not expected to change after commissioning the new boiler. It also states that wastewater from the existing boiler is discharged according to an agreement with TasWater. To ensure this continues, **Condition E1** requires that water can only be discharged to sewer with approval of the operator of the sewage system. **Condition E2** requires that wastewater from the boiler must be directed to sewer.

The proposed management measures are considered appropriate to deal with the volume of waste produced from the activity. No conditions for solid wastes are considered necessary, however the Permit details the waste management hierarchy, **O11**, in the information section, for best practice waste management.

### Conclusion

The proponent will be required to comply with the following conditions:

- **E1** Discharges to Sewer
- **E2** Wastewater management

Other information included in the permit.

- **O11** Waste management hierarchy
### Issue 4: Environmentally Hazardous Substances

#### Description of potential impacts

Environmentally hazardous substances such as oils and lubricants can cause significant environmental damage if released to the environment. The EER states that the proposed boiler does not use or store quantities of hazardous substances likely to cause serious or material environmental harm if released to the environment, however does state that some lubricants/oils will be used in machinery.

#### Management measures proposed in EER

- The EER states that any minor leaks from machinery (ie lubricants) will be handled in accordance with environmental requirements.

#### Public and agency comment

No comment received.

#### Evaluation

It is considered unlikely that the volumes of hazardous substances required for operation of the boiler will be at a level which will cause environmental harm through accidental release to the environment. However, to ensure potential environmental harm is minimised, **Condition H1** requires that when used, any hazardous materials are stored in containment systems and managed to prevent discharge or emission to the environment, and this is reflected by the proposed management measures in the EER.

#### Conclusion

The proponent will be required to comply with the following conditions:

**H1 Storage and handling of hazardous materials**
### Issue 5: Decommissioning and rehabilitation

#### Description of potential impacts

Industrial activities have the potential to cause ongoing environmental impacts after cessation if not appropriately decommissioned, through release of contaminants to the environment. The lifespan of the boiler is expected to be approximately 20 years.

#### Management measures proposed in EER

No measures are detailed for the end of life for the proposed boiler. The existing pyrethrum/coal boiler will be decommissioned and removed from the site.

#### Public and agency comment

No comment received.

#### Evaluation

Management of decommissioning and rehabilitation is necessary at the end of the proposed boiler’s life and will be required by permit conditions DC1 and DC2. **Condition DC1** requires that the Director is notified of planned cessation of the activity. **Condition DC2** requires that a Decommissioning and Rehabilitation Plan (DRP) is submitted to the Director within 30 days of the Director being notified of the planned cessation of the activity. **Condition DC3** is required to ensure that the Land is rehabilitated following the permanent cessation of the activity and **condition DC4** requires notification where a temporary suspension of the activity is likely to occur.

#### Conclusion

The proponent will be required to comply with the following conditions:

- **DC1** Notification of cessation
- **DC2** DRP requirements
- **DC3** Rehabilitation following cessation
- **DC4** Temporary suspension of activity
7 Report Conclusions

This assessment has been based on the information provided by the proponent, Greenham Tasmania Pty Ltd, in the permit application and the case for assessment (the EER).

This report incorporates specialist advice provided by EPA Tasmania scientific specialists and regulatory staff.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal;
2. the assessment of the proposed activity has been undertaken in accordance with the Environmental Impact Assessment Principles; and
3. the proposed activity is capable of being managed in an environmentally acceptable manner such that it is unlikely that the objectives of the Environmental Management and Pollution Control Act 1994 (the RMPS and EMPCS objectives) would be compromised, provided that the Permit Conditions - Environmental No. 10240 appended to this report are imposed and duly complied with.
8 Report Approval

Environmental Assessment Report and conclusions, including environmental conditions, adopted:

[Signature]

DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY
Acting under delegation from the Board of the Environment Protection Authority

Date: 22 April 2020
9 References

Greenham Tasmania Pty Ltd, Environmental Effects Report V3, Proposed Boiler Replacement, 2 & 4 Bacon Factory Road, Smithton, Tasmania


Environment Protection Policy (Air Quality) 2004, Environment Division, Department of Primary Industries, Water and Environment
10 Appendices

Appendix 1  Table of proponent management measures

Appendix 2  Permit conditions
## Appendix 1 – Table of proponent management measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Commitment</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Undertake post commissioning Air quality monitoring to ensure compliance with Air EPP 2004</td>
<td>Within 3 months post commissioning</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Undertake ongoing Air quality monitoring to ensure compliance with Air EPP</td>
<td>Annually</td>
</tr>
<tr>
<td>Design Management Measures</td>
<td>Install system as designed to reduce emissions to ensure compliance with Air EPP</td>
<td>Prior to construction</td>
</tr>
<tr>
<td>Design Management Measures</td>
<td>Install wood chip visual moisture monitoring</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Noise</td>
<td>Undertake post commissioning monitoring at sensitive receptors to ensure compliance with Noise EPP</td>
<td>Within 3 months of commissioning</td>
</tr>
<tr>
<td>Solid waste</td>
<td>Use ash within composting operations as a carbon source.</td>
<td>ongoing</td>
</tr>
<tr>
<td>Monitoring</td>
<td>A complaints register to monitor and address any dust, noise or other compliance will be maintained</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Follow manufacturer’s recommendations of quarterly multi-cyclone inspections and annual servicing.</td>
<td>Quarterly/Annual</td>
</tr>
</tbody>
</table>
Appendix 2 – Permit conditions – Environmental
PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 10240

Issued under the Environmental Management and Pollution Control Act 1994

Activity: The operation of a wood fired boiler (ACTIVITY TYPE: Fuel Burning)
SMITHTON ABATTOIR AND RENDERING, BACON FACTORY ROAD
SMITHTON TAS 7330

The above activity has been assessed as a level 2 activity under the Environmental Management and Pollution Control Act 1994.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the Land Use Planning and Approvals Act 1993 with respect to the above activity.

Municipality: CIRCULAR HEAD
Permit Application Reference: DA 2019/081
EPA file reference: 258183

Date conditions approved: 22 April 2020

Signed: ______________________________________________

DELEGATE FOR THE BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

22 April 2020
DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in Schedule 1 of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in Schedule 2 of this Permit Part B.

INFORMATION

Attention is drawn to Schedule 3, which contains important additional information.
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Attachments

Attachment 1: The Land (modified: 05/03/2020 10:45).................................................................................. 1 page
Schedule 1: Definitions

In this Permit Part B:-

**Activity** means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates, and includes more than one such activity.

**Director** means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a person authorised in writing by the Director to exercise a power or function on the Director's behalf.

**DRP** means Decommissioning and Rehabilitation Plan.

**EMPCA** means the *Environmental Management and Pollution Control Act 1994*.

**Environmental Harm** and **Material Environmental Harm** and **Serious Environmental Harm** each have the meanings ascribed to them in Section 5 of EMPCA.

**Environmental Nuisance** and **Pollutant** each have the meanings ascribed to them in Section 3 of EMPCA.

**Environmentally Hazardous Material** means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals but excludes sewage.

**In-Stack Concentration** has the meaning ascribed to it in the *Environment Protection Policy (Air Quality) 2004*.

**Noise Sensitive Premises** means residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

**Nominated Exhaust Points** means means the wood fired boiler stack located within the area marked "New Boiler" on the plan at Attachment 1.

**Person Responsible** is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

**Stack Test** means the taking of measurements and the collection of samples for analysis from within a chimney, stack or flue.

**The Land** means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

1. CT 33432/4 as delineated at Attachment 1

**Wastewater** means spent or used water (whether from industrial or domestic sources) containing a pollutant and includes stormwater which becomes mixed with wastewater.
Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits
   1 The activity must not exceed the following limits:
      1.1 4 tonnes per hour of total capacity to consume fuel.

General

G1 Access to and awareness of conditions and associated documents
   A copy of these conditions and any associated documents referred to in these conditions must be held in a location that is known to and accessible to the person responsible for the activity. The person responsible for the activity must ensure that all persons who are responsible for undertaking work on The Land, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work.

G2 Incident response
   If an incident causing or threatening environmental nuisance, serious environmental harm or material environmental harm from pollution occurs in the course of the activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

G3 No changes without approval
   1 The following changes, if they may cause or increase the emission of a pollutant which may cause material or serious environmental harm or environmental nuisance, must only take place in relation to the activity if such changes have been approved in writing by the EPA Board following its assessment of an application for a permit under the Land Use Planning and Approvals Act 1993, or approved in writing by the Director:
      1.1 a change to a process used in the course of carrying out the activity; or
      1.2 the construction, installation, alteration or removal of any structure or equipment used in the course of carrying out the activity; or
      1.3 a change in the quantity or characteristics of materials used in the course of carrying out the activity.

G4 Change of responsibility
   If the person responsible for the activity intends to cease to be responsible for the activity, that person must notify the Director in writing of the full particulars of any person succeeding him or her as the person responsible for the activity, before such cessation.

G5 Change of ownership
   If the owner of The Land upon which the activity is carried out changes or is to change, then, as soon as reasonably practicable but no later than 30 days after becoming aware of the change or intended change in the ownership of The Land, the person responsible must notify the Director in writing of the change or intended change of ownership.

G6 Complaints register
   1 A public complaints register must be maintained. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental harm (including an environmental nuisance) has been caused by the activity:
1.1 the date and time at which the complaint was received;
1.2 contact details for the complainant (where provided);
1.3 the subject matter of the complaint;
1.4 any investigations undertaken with regard to the complaint; and
1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.

2 Complaint records must be maintained for a period of at least 3 years.

**Atmospheric**

A1 Stack emission limits

1. The in-stack concentrations in emissions from all nominated exhaust points of substances listed in Column 1 of the Table of Atmospheric Emission Limits below must not exceed the limits specified in Column 4 when measured in the units specified in Column 2 and adjusted to the reference gas value specified in Column 3.

2. **Table of Atmospheric Emission Limits**

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance</td>
<td>Unit of Measure</td>
<td>Reference Gas Value</td>
<td>Emission Limit</td>
</tr>
<tr>
<td>Particulate matter</td>
<td>mg/m$^3$ dry gas at 0°C and 101.325 kPa</td>
<td>7% oxygen by volume</td>
<td>100</td>
</tr>
<tr>
<td>Oxides of nitrogen</td>
<td>mg/m$^3$ dry gas at 0°C and 101.325 kPa</td>
<td>7% oxygen by volume</td>
<td>500</td>
</tr>
</tbody>
</table>

A2 Stack testing frequency

1. Stack tests must be carried out within 90 days of the completion of commissioning of the boiler and annually thereafter unless otherwise approved by the Director.

2. Stack tests must occur when the boiler is operating under full load and normal operating conditions and the results must be provided to the Director within 60 days of the commencement of testing.

A3 Stack testing facilities

1. The following stack testing facilities must be available at all nominated exhaust points when undertaking stack testing required by these conditions:

   1.1 sampling positions must be in accordance with Australian Standard AS 4323.1 (*Stationary source emissions - selection of sampling positions*), or as approved in writing by the Director;

   1.2 safe sampling platforms must be located to allow access to the sampling positions and safe access to these sampling platforms must be provided; and

   1.3 all necessary services required for the test method prescribed must be provided.

**Decommissioning And Rehabilitation**

DC1 Notification of cessation

Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.
DC2  DRP requirements

Unless otherwise approved in writing by the Director, a Decommissioning and Rehabilitation Plan (DRP) for the activity must be submitted for approval to the Director within 30 days of the Director being notified of the planned cessation of the activity or by a date specified in writing by the Director. The DRP must be prepared in accordance with any guidelines provided by the Director.

DC3  Rehabilitation following cessation

1  Following permanent cessation of the activity, and unless otherwise approved in writing by the Director, The Land must be rehabilitated including:
   1.1  stabilisation of any land surfaces that may be subject to erosion;
   1.2  removal or mitigation of all environmental hazards or land contamination, that might pose an on-going risk of causing environmental harm; and
   1.3  decommissioning of any equipment that has not been removed.

2  Where a Decommissioning and Rehabilitation Plan (DRP) has been approved by the Director, decommissioning and rehabilitation must be carried out in accordance with that plan, as may be amended from time to time with written approval of the Director.

DC4  Temporary suspension of activity

1  Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.

2  During temporary suspension of the activity:
   2.1  The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance; and
   2.2  If required by the Director a Care and Maintenance Plan for the activity must be submitted, by a date specified in writing by the Director, for approval. The person responsible must implement the approved Care and Maintenance Plan, as may be amended from time to time with written approval of the Director.

3  Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

Effluent Disposal

E1  Discharges to sewer

Wastewater, including treated wastewater, can only be discharged to sewer with approval of the operator of the sewage system. This approval may be in the form of a trade waste agreement.

E2  Wastewater management

Wastewater from the Boiler must be directed to sewer.

Hazardous Substances

H1  Storage and handling of hazardous materials

1  Unless otherwise approved in writing by the Director, environmentally hazardous materials held on The Land must be:
1.1 stored within impervious bunded areas, spill trays or other containment systems; and

1.2 managed to prevent unauthorised discharge, emission or deposition of pollutants:
   1.2.1 to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;
   1.2.2 to groundwater;
   1.2.3 to waterways; or
   1.2.4 beyond the boundary of The Land.

**Noise Control**

**N1 Post commissioning noise survey requirements.**

1 Unless otherwise approved by the Director, a post commissioning noise survey must be carried out within 90 days of commissioning to determine noise emission levels from boiler operations.

2 The noise survey must be undertaken in accordance with a survey method approved in writing by the Director.

3 A report containing the measurements, prediction of noise levels at the nearest sensitive premises in other ownership, and methods used must be submitted to the Director.

4 Noise emissions from the boiler operations, when predicted at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level, must not exceed:
   4.1 45 dB(A) between 0700 hours and 1800 hours (Day time); and
   4.2 35 dB(A) between 1800 hours and 2200 hours (Evening time); and
   4.3 30 dB(A) between 2200 hours and 0700 hours (Night time).
Schedule 3: Information

Legal Obligations

LO1 EMPCA
The activity must be conducted in accordance with the requirements of the Environmental Management and Pollution Control Act 1994 and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO2 Storage and handling of dangerous goods, explosives and dangerous substances
1 The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:
  1.1 Work Health and Safety Act 2012 and subordinate regulations;
  1.2 Explosives Act 2012 and subordinate regulations; and
  1.3 Dangerous Goods (Road and Rail Transport) Act 2010 and subordinate regulations.

Other Information

OI1 Waste management hierarchy
1 Wastes should be managed in accordance with the following hierarchy of waste management:
  1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;
  1.2 waste should be re-used or recycled to the maximum extent that is practicable; and
  1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

OI2 Notification of incidents under section 32 of EMPCA
Where a person is required by section 32 of EMPCA to notify the Director of the release of a pollutant, the Director can be notified by telephoning 1800 005 171 (a 24-hour emergency telephone number).