PAPER AUSTRALIA PTY LTD

Holder of Works Approval: 184188
Issued: 28/11/2018
Last amended: 18/06/2019
ACN: 061 583 533
Registered Address: 307 FERNTREE GULLY RD
                 MOUNT WAVERLEY VIC 3149
Premises Address: TRARALGON WEST RD
                 MARYVALE VIC 3840
Scheduled Categories: A08 Waste to Energy
                      K01 Power stations
Description: To construct a waste to energy facility (moving grate) with combined heat and power recovery. The facility will thermally treat non-hazardous residual municipal, commercial and industrial waste.

CATHY WILKINSON
Chief Executive Officer
Delegate of the Environment Protection Authority

Issued under the Environment Protection Act 1970, Section 19B
Works Approvals

Who we are: The Environment Protection Authority ("EPA") is an independent statutory authority established under the Environment Protection Act 1970 ("the Act"). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we issue works approvals: EPA is responsible for preventing or controlling pollution (including noise) and improving the quality of the environment. This responsibility includes regulating activities that may present a danger to the environment. One of the tools available to EPA is issuing works approvals for scheduled premises to prevent or minimise risk to the environment.

Section 19A of the Act requires the occupier of a “scheduled premises” to obtain works approval to construct or install plant and equipment in order to discharge, handle, treat or dispose of waste to the environment. These types of premises are defined in the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 ("the Regulations").

When we issue works approvals: EPA will issue a works approval when satisfied that an applicant has put in place measures to protect the environment. Works approvals allow construction of works to occur and set control measures to minimise a site’s environmental risk. EPA can amend a works approval in response to changes in standards and site activities. Works approval holders must submit reports if required by a condition of the approval.

Works Approval information and obligations

For the purposes of this works approval “You” means the works approval holder identified on the first page of this works approval at the “premises” identified on the first page and represented in Schedule 1.

Compliance: You must comply at all times with the Act and all policies and regulations administered by EPA. Strict penalties apply for non-compliance with any part of your works approval.

Works Approval structure

Structure: Your works approval has:
- Works conditions - setting out requirements for construction or installation;
- Schedule 1A - locality plan of your premises;
- Schedule 1B - plan of premises (provided by you).
Some types of works approvals also contain Schedule 1C - final landfill contour plan.
General Conditions

WA_G1 Subject to the following conditions, this approval allows the construction of a Waste to Energy facility (moving grate) capable of thermally treating 650,000 (+/- 10 per cent) tonnes per annum of residual Municipal Solid Waste (MSW) and residual Commercial and (non hazardous) Industrial (C&I) waste, consisting of the following key components:

(a) a fully enclosed negatively pressured waste tipping hall with a bunker that has a minimum capacity of storing 8,000 tonnes of residual waste;

(b) a flue gas and emissions control treatment system for each combustion line which:


(ii) is based on an international BAT review for waste incineration plants, and follows the guiding BAT principles of the European Commission Integrated Pollution Prevention and Control Reference Document on Best Available Techniques for Waste Incineration, (EC BREF) August 2006 and draft EC BREF December 2018;

(iii) at a minimum includes selective non-catalytic reduction (SNCR) of NOx with injection of urea, dry/semi-dry lime injection, activated carbon injection, and a baghouse;

(iv) allows for ease of upgrade to achieve more stringent limits, if required in the future and so far as is reasonably practicable, makes provision for incorporation of future emissions controls as may be recommended by the EC BREF as amended from time to time, which do not result in significant efficiency impacts of the initial design;

(v) is capable of meeting the requirements and procedures (including applicable emission limits) of IED 2010/75/EU and Schedule E of State Environment Protection Policy (SEPP) (Air Quality Management) No. S 240 (21 December 2011) in all operating scenarios, including steady state, unsteady state, all transient, part load, and start up and shut down operating conditions as defined in the IED 2010/75/EU;

(vi) is capable of meeting the requirements of the IED 2010/75/EU Article 50, Clauses 2 and 3, furnace temperature residence requirement of a minimum temperature of 850°C for more than two seconds in the furnace after the last point of combustion air injection under all transient, part load, and start up operating conditions as defined in the IED 2010/75/EU; and

(vii) does not provide any bypass ducts within the flue gas treatment path, excluding:

A. bypass to atmosphere required for emergency safety reasons; or

B. tertiary air recirculation.
(c) a Continuous Emissions Monitoring System capable of measuring pollutants, including: carbon monoxide, total dust, total organic carbon, hydrogen chloride, hydrogen fluoride, sulphur dioxide, oxides of nitrogen expressed as NO₂ and ammonia;

(d) continuous measurement of: temperature; stack gas flow; pressure; gas moisture content; oxygen;

(e) combined heat and power plant which recovers heat generated from the process as far as practicable and is designed to a minimum R1 energy efficiency of 0.72 (calculated in accordance with EPA guideline 1559); and

(f) provision for future incorporation of options (including physical space on the site, external to the facility itself) to improve material recovery from the waste feedstock prior to incineration, if this becomes viable.

WA_G2 The works must be constructed in accordance with the application as per Appendix A of this Works Approval, except that, in the event of any inconsistency arising between the application and the conditions of this approval, the conditions of this approval shall apply.

WA_G3 This approval will not take effect until any permit which is required under the Planning and Environment Act 1987 has been served on the Authority by the applicant.

WA_G4.1.1 This approval expires on 28 November 2022 unless the works have been commenced by that date to the satisfaction of EPA.

**Works Conditions**

WA_W1 Before commencing construction of any works, you must provide to EPA the following report or reports with accompanying plans and specifications including:

(a) waste composition data report, including:

(i) at least 12 months of chemical, physical and calorific value analysis results representative of the waste feedstocks proposed to be incinerated (intended feedstocks);

(ii) a list of types of wastes within the intended feedstocks including information on the quantity of each waste type;

(iii) a comparison between the intended feedstocks and the expected waste composition as set out in 10.4.5 of the works approval application; and

(iv) details of the methodology used for collecting the waste composition data.

(b) the final detailed designs and schematics of the works optimised to treat the intended feedstocks specified in WA_W1 (a) and an updated chemical mass balance of the waste, both approved in writing by an EPA-appointed environmental auditor (or alternative expert approved by the EPA in writing);

(c) an updated noise assessment, including:

(i) final acoustic design details of all buildings as part of works;
(ii) noise predictions based on the final equipment schedule including reference equipment noise data;

(iii) considerations of noise character (tonality, impulsiveness, or intermittency) with adjustments to be applied for the determination of the effective noise levels and details of any new or proposed noise mitigation measures designed to address the potential audible character;

(iv) assessment of the risk for intrusive low frequency noise, and detail of mitigation measures; and

(v) evidence of the implementation of best practice to minimise noise emissions.

(d) computational fluid dynamics (CFD) modelling demonstrating that:

(i) all combustion gases, after the last injection of air, are elevated to a minimum temperature of 850° Celsius with a residence time of at least two seconds;

(ii) the injection point of urea and the injection point of recirculated flue gas maximises NOx reduction; and

(iii) all combustion gases are reduced to 200° Celsius, or below, at the outlet of the boiler.

(e) a wastewater report based on the final detailed designs that:

(i) quantifies the wastewater generated and confirms compliance with your current licence conditions; and

(ii) specifies the predicted wastewater discharge of sulphates and chlorine with a comparison to the ANZECC guidelines;

(f) an updated premises plan with location of discharge points;

(g) a Construction Environment Management Plan;

(h) a management plan which details the management and disposal of fly ash and bottom ash; and

(i) a waste acceptance management plan that (as a minimum):

(i) confirms the waste acceptance criteria as set out in 10.5.2.1 of the works approval application main report;

(ii) confirms that wood waste from forestry operations will not be accepted at the facility, other than defective woodchip or wood waste that would otherwise be diverted to landfill which will not exceed 1 per cent of the total input feedstock calculated over any calendar year;

(iii) sets out detailed waste acceptance procedures including processes and systems by which waste unsuitable for incineration at the facility will be identified and managed;

(iv) includes contingency plans for waste loads that when inspected reveals more than negligible quantities of pre-sorted recyclable material, hazardous material, prescribed industrial waste or other waste types which do not meet the waste acceptance criteria;
(v) requires regular review identifying options available for improving material recovery from the waste feedstock prior to incineration, at a minimum of five-yearly intervals and to the satisfaction of EPA; and

(vi) sets out auditing and reporting processes, including a requirement that an independent auditor will be appointed during the first three years of operation to verify that the material received onsite is compliant with the waste acceptance management plan.

WA_W2 You must not commence construction of the works for which reports are required by condition WA_W1 until written EPA approval of those reports has been received.

WA_W3 Where any reports specified in condition WA_W1 and approved by EPA differ from the application, the works must be constructed in accordance with those approved reports.

WA_W4 You must notify EPA when the construction of the works covered by this approval has been commenced.

WA_W5 You must notify EPA when the construction of the works covered by this approval has been completed.

WA_W8 You must install:

(a) a device capable of sampling in stack long-term mass concentrations of polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF);

(b) a continuous emission monitoring system for mercury if and when an EC BREF adopted by the European Commission lists continuous emission monitoring for mercury as a BAT;

(c) for each combustion chamber, at least one auxiliary burner that is automatically switched on when the temperature of the combustion gases after the last injection of air fall below 850° Celsius.

(d) a system to prevent waste feed if:

(i) temperature (at least 850 °Celsius with a residence time of at least 2 seconds) at start-up has not been reached;

(ii) combustion temperature (at least 850 °Celsius with a residence time of at least two seconds) is not maintained; or

(iii) continuous Emissions Monitoring Systems show that any emission limit value is exceeded due to disturbance or failure of the waste gas cleaning devices.

WA_W12 You must install all stacks and sampling platforms to allow for testing of exhaust gases in accordance with Australian Standard 4323.1/1995 revised 2014.

WA_W13 You must install the chemical storage and ash storage in a bunded area or areas, each of which is constructed in accordance with EPA Publication 347 Bunding Guidelines, as amended from time to time.

WA_W14 You must install all wastewater discharge points so that provisions for sampling are included in accordance with EPA publication 441 "Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes", as amended from time to time.
During construction, unacceptable noise (including vibration) must not be emitted beyond the boundaries of the premises.

All construction activities must be undertaken in accordance with EPA publication 480 *Environmental Guidelines for Major Construction Sites*, as amended from time to time.

During construction, you must ensure that all activities are carried out in accordance with the information provided in the works approval application.

### Reporting Conditions

**WA_R1** At least four months before the commencement of any commissioning, you must provide to EPA a plan and plans that include(s):

(a) a report detailing provisions for publicly reporting of monitoring results on a website related to the project, or through a website agreed to by EPA, that must include:

   (i) periodic reporting of monitoring results at a minimum frequency of quarterly;
   
   (ii) reporting of continuous emission monitoring results at a minimum frequency of monthly; and
   
   (iii) reporting of compliance status of air emissions against licence limits at a minimum frequency of daily

(b) a report describing baseline conditions of soil, surface and groundwater at the premises and its boundary;

(c) a summary report of the site Environmental Management System (EMS) and make available for inspection all documents and procedures which form part of the EMS;

(d) a detailed commissioning plan for the works;

(e) an air emissions monitoring and assessment plan that must include, as a minimum:

   (i) commissioning monitoring methodology for demonstrating compliance with State Environment Protection Policy (Air Quality Management) and Directive 2010/75/EU of the European Parliament and of the Council, dated 24 November 2010, of the treated flue gas by the completion of commissioning;
   
   (ii) monitoring of individual species of the following indicators: Polycyclic Aromatic Hydrocarbons, Polychlorinated biphenyls, Volatile Organic Compounds, Polyhalogenated dibenzo-dioxins/furans, Chlorinated polycyclic aromatics and Chlorinated monocyclic aromatics; and
   
   (iii) an accompanying commissioning monitoring and sample plan, prepared in accordance with EPA publication no. 440.1 A Guide to the Sampling and Analysis of Air Emissions and Air Quality, dated 2002, including, but not limited to, sampling and measurement procedures and frequencies;

(f) a noise emission monitoring and assessment plan that includes commissioning monitoring methodology for verifying compliance with the noise assessment required by condition WA_W1;
(g) waste management contingency plan for extended planned and unplanned
shutdowns expected to exceed 72 hours, that as a minimum considers:

(i) alternative waste management options;

(ii) alternative waste odour control contingency measures; and

(iii) arrangements or systems to inform relevant stakeholders (including, but not
limited to, energy offtake companies, the EPA and local councils).

WA_R4 Before the commencement of any commissioning, you must provide, to the satisfaction of
EPA, a report that includes:

(a) all plans specified in condition WA_R1 of the works approval; and

(b) construction verification report prepared by an EPA-appointed auditor
demonstrating that the facility has been built in accordance with the works approval;
and

(c) confirmation that the recommendations of a hazard and operability study (HAZOP),
including in respect of fire hazards, have been implemented.

WA_R5 You must not commence operation of the works until written EPA approval of the plans and
reports required by condition(s) WA_R1 and WA_R4 has been received.
Before relying on the information in this map, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.
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APPENDIX A LIST OF APPLICATION DOCUMENTS

2. Supplementary information to works approval application: Australian Paper: energy from waste project – supplementary information, 25 May 2018, including:
   - Premises plan dated 15 May 2018
3. Further information provided by Australian Paper, 23 July 2018 in response to section 22 notice of 10 July 2018, compromising:
   - response to section 22 notice: Australian Paper EfW project
   - individual responses to public submissions.
4. Further information provided to support the works approval application: Maryvale energy from waste plant: health impact assessment, 27 September 2018.