Permit

Environmental Protection Act 1994

Environmental authority EA0001412

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EA0001412

Environmental authority takes effect on a date to be decided later.

Environmental authority holder(s)

Name(s)	Registered address
F.K. GARDNER & SONS PTY. LTD.	275 McDougall Street TOOWOOMBA QLD 4350 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 14 - Electricity Generation, 1: Generating electricity by using gas at a rated capacity of 10MW electrical or more	LOT 1/RP159685
Prescribed ERA, ERA 14 - Electricity Generation, 1: Generating electricity by using gas at a rated capacity of 10MW electrical or more	LOT 2/RP159685
Prescribed ERA, ERA 14 - Electricity Generation, 1: Generating electricity by using gas at a rated capacity of 10MW electrical or more	LOT 28/RP24623

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the Environmental Protection Act 1994 (EP Act).

ABN 46 640 294 485

Queensland Government

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the Planning Act 2016 or an SDA Approval under the State Development and Public Works Organisation Act 1971), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 26 September 2018

Enquiries:
Extraction, Energy and Chemical Industries Assessment
Department of Environment and Science
Phone: 1300 130 372
Email: palm@des.qld.gov.au

ABN 46 640 294 485

Obligations under the Environmental Protection Act 1994

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
G1	Any breach of a condition of this environmental authority must be reported to the **administering authority** as soon as practicable within 24 hours of becoming aware of the breach. **Records** must be kept including full details of the breach and any subsequent actions taken.
G2	**Activities** under this environmental authority must be conducted in accordance with the following limitations: a) The activity must be conducted within the areas highlighted as "Private Gas Pipeline", "Gas Power Plant" and 'Sub-station" in the site plan 1761.002, Rev K in the document titled "Appendix A_Plans_4" dated 18 July 2018.
G3	All reasonable and practicable **measures** must be taken to prevent or minimise environmental harm caused by the **activities**.
G4	The **activity** must be undertaken in accordance with written procedures that: a) identify potential risks to the environment from the **activity** during routine operations and emergencies; and b) establish and maintain control **measures** that minimise the potential for environmental harm; and c) ensure plant, equipment and **measures** are maintained in a proper and effective condition; and d) ensure plant, equipment and **measures** are operated in a proper and effective manner; and e) ensure that staff are trained and aware of their obligations under the *Environmental Protection Act 1994*; and f) ensure that reviews of environmental performance are undertaken at least annually.
G5	All **records** must be kept for a period of at least five years and provided to the **administering authority** upon request.
G6	Chemicals and fuels in containers of greater than 15 litres must be stored within a **secondary containment system.**
G7	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (**NATA**) certification, or an equivalent certification, for such analyses. The only exception to this condition is for *in situ* monitoring of pH and electrical conductivity.
G8	When required by the **administering authority**, monitoring must be undertaken in the manner prescribed by the **administering authority** to investigate a complaint of **environmental nuisance** arising from the **activity**. The monitoring results must be provided within 10 business days to the **administering authority** upon its request.
G9	Other than as permitted by this environmental authority, the **release of a contaminant into the environment** must not occur.

<table>
<tr><th colspan="2">Agency interest: Waste</th></tr>
<tr><th>Condition number</th><th>Condition</th></tr>
<tr><td>W1</td><td>All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.</td></tr>
<tr><th colspan="2">Agency interest: Acoustic</th></tr>
<tr><th>Condition number</th><th>Condition</th></tr>
<tr><td>N1</td><td>Other than as permitted within this environmental authority, noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place.</td></tr>
<tr><td>N2</td><td>Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Table 1 – Noise limits and the associated requirements at any nuisance sensitive place.

Table 1 – Noise limits
<table>
<tr><td rowspan="2">Noise level measured in dB(A)</td><td colspan="3">Monday to Sunday (including public holidays)</td></tr>
<tr><td>7am–6pm</td><td>6pm–10pm</td><td>10pm–7am</td></tr>
<tr><td></td><td colspan="3">Noise measured at a sensitive place</td></tr>
<tr><td>$L_{Aeq\ adj}$, 1 hour</td><td>$L_{A90,T}$ + 5dB(A)</td><td>$L_{A90,T}$ + 5dB(A)</td><td>$L_{A90,T}$ + 3dB(A)</td></tr>
<tr><td>L_{A90}, 1hour</td><td>$L_{A90,T}$ + 0dB(A)</td><td>$L_{A90,T}$ + 0dB(A)</td><td>$L_{A90,T}$ + 0dB(A)</td></tr>
</table>
Where $L_{A90,T}$ is the measured background level unaffected by the activity.

Associated requirements

(i) All monitoring devices must be correctly calibrated and maintained.
(ii) Any monitoring must be in accordance with the most recent version of the administering authority's Noise Measurement Manual.

(iii) Any monitoring of noise emissions from the activity must be undertaken when the activity is in operation.</td></tr>
<tr><th colspan="2">Agency interest: Air</th></tr>
<tr><th>Condition number</th><th>Condition</th></tr>
<tr><td>A1</td><td>Odours or airborne contaminants must not cause environmental nuisance to any sensitive place or commercial place.</td></tr>
<tr><td>A2</td><td>Contaminants released to the atmosphere from a point source must;
a) only occur from those release points identified in Table 2 – Contaminant release limits to air; and</td></tr>
</table>

b) be directed vertically upwards without any impedance or hindrance; and
c) be released to the atmosphere from the release point at a height and flow rate not less than the corresponding height and velocity stated in Table 2; and
d) not be released at a concentration, as measured at the monitoring point, in excess of that stated in Table 2.

A3

Contaminants must only be released to air from the point source(s) in accordance with Table 2 – Point source air release limits and the associated requirements.

Table 2 – Point source air release limits

Release point number	Minimum release height (metres)	Minimum velocity (m/sec)	Contaminant release	Maximum release limit (see Note 1)
A1-Gas Turbine 1	15	25	Oxides of Nitrogen	70 mg/Nm^3 at 15% O_2
			Carbon Monoxide	50 mg/Nm^3 at 15% O_2
A2-Gas Turbine 2	15	25	Oxides of Nitrogen	70 mg/Nm^3 at 15% O_2
			Carbon Monoxide	50 mg/Nm^3 at 15% O_2
A3-Gas Turbine 3	15	25	Oxides of Nitrogen	70 mg/Nm^3 at 15% O_2
			Carbon Monoxide	50 mg/Nm^3 at 15% O_2
A4-Gas Engine 1	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A5-Gas Engine 2	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A6-Gas Engine 3	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A7-Gas Engine 4	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A8-Gas Engine 5	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2

A9- Gas Engine 6	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A10- Gas Engine 7	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A11- Gas Engine 8	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A12- Gas Engine 9	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A13- Gas Engine 10	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A14- Gas Engine 11	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A15- Gas Engine 12	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A16- Gas Engine 13	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A17- Gas Engine 14	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A18- Gas Engine 15	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A19- Gas Engine 16	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2
A20- Gas Engine 17	11	24	Oxides of Nitrogen	450 mg/Nm^3 at 3% O_2
			Carbon Monoxide	350 mg/Nm^3 at 3% O_2

Associated requirements

1. The above release limits are applicable during all timings except start-up, shut-down and calibration of emission monitoring devices. The start-up duration is allowed up to 30 minutes. **Normal cubic metre (Nm^3)**" means the volume of dry gaseous contaminant which occupies 1 cubic metre at a temperature of zero degrees Celsius and at an absolute pressure of 101.3 kilopascals. The concentration limits in Table 1 refers to 15% oxygen reference level for gas turbines and 3% oxygen reference level for gas engines.

<table>
<tr><td>A4</td><td>All authorised release points referred to in Table 2 – Point source air release limits must be conspicuously marked with the corresponding release point number.</td></tr>
<tr><td>A5</td><td>Contaminants must be monitored not less frequently than Table 3 - Required Release Point Determinations.

Table 3 – Required Release Point Determinations
<table>
<tr><th>Determination required</th><th>Authorised release points</th><th>Frequency</th></tr>
<tr><td>Mass emission rate and concentration of oxides of nitrogen (NOx) in the flue gas</td><td rowspan="2">Stacks A1 to A21 inclusive</td><td rowspan="2">All stacks must be monitored within three months of commissioning (See Note1) of the units and at least one gas turbine and three gas engine stacks per year thereafter on rotational basis</td></tr>
<tr><td>Mass emission rate and concentration of carbon monoxide (CO) in the flue gas</td></tr>
</table>
Note 1: Within 3 months of commissioning the power generation units, the holder of this authority must conduct air emission monitoring to demonstrate compliance with air emission limits listed in Table 1.</td></tr>
<tr><td>A6</td><td>The only type of fuel to be burnt in power generation under normal operating conditions is natural gas.</td></tr>
<tr><td>A7</td><td>The holder of this approval must conduct and keep records of a monitoring program of contaminant releases to the atmosphere at the release points, frequency, and for the parameter specified in Table 2 - Required Release Point Determinations and which complies with the following:

a) Monitoring provision for the release points listed in Table 2 must comply with the Australian Standard AS 4323.1 - 1995 "Stationary source emissions Method 1: Selection of sampling positions".
b) Air Monitoring must be in accordance with the current edition of the administering authority’s Air Quality Sampling Manual.
c) The following tests must be performed for each required determination specified in Table 2 - Required Release Point Determinations:
i. gas velocity and volume flow rate;
ii. temperature and oxygen content;
iii. water vapour concentration
d) Samples taken must be representative of the contaminants discharged when emissions are expected to be at maximum rates.
e) During the sampling period the following additional information must be gathered:

i. power generation rate at the time of sampling;
ii. fuel type and consumption rate;
iii. number of generating units in use; and
iv. reference to the actual test methods and accuracy's.</td></tr>
</table>

Agency interest: Land	
Condition number	**Condition**
L1	Contaminants must not be released to **land.**
L2	Before applying to surrender this environmental authority, the site must be rehabilitated to achieve a safe, stable, non-polluting landform and suitable post-rehabilitation land use.
Agency interest: Water	
Condition number	**Condition**
WT1	Other than as permitted within this environmental authority, contaminants must not be released to any waters.
WT2	The holder of this environmental authority must: (a) develop and implement a stormwater management plan which addresses at least the following issues: (i) minimise incident stormwater and stormwater runoff from contacting wastes or contaminants; and (ii) diversion of upstream runoff away from areas containing wastes or contaminants; and (iii) minimisation of the size of contaminated areas; and (iv) cleaning of contaminated areas without water; and (v) installation and maintenance of pollution control equipment such as oil separators, silt and rubbish traps, and stormwater diversion systems, sedimentation ponds and settling pits; and (vi) bunding of chemical and fuel storage areas. (b) on or before the commencement of operation of the Witmack Energy Hub, have completed and implemented the stormwater management plan.

Definitions

Key terms and/or phrases bolded in this environmental authority are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Activity means the environmentally relevant activities, whether resource activities or prescribed activities, to which the environmental authority relates.

Administering authority means the Department of Environment and Heritage Protection or its successors or predecessors.

Background means noise, measured in the absence of the noise under investigation, as $L_{A90,T}$ being the A-weighted sound pressure level exceeded for 90% of the time period of not less than 15 minutes, using Fast response.

Environmental nuisance as defined in Chapter 1 of the *Environmental Protection Act 1994*.

Groundwater means water that occurs naturally in, or is introduced artificially into, an aquifer.

$L_{Aeq\ adj,T}$ means the adjusted A weighted equivalent continuous sound pressure level measures on fast response, adjusted for tonality and impulsiveness, during the time period T, where T is measured for a period no less than 15 minutes when the **activity** is causing a steady state noise, and no shorter than one hour when the approved **activity** is causing an intermittent noise.

$LA_{90,T}$ means the noise level exceeded for the 90% of the time, during the time period T.

Land does not include **waters**.

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

NATA means National Association of Testing Authorities.

Records include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition of this authority.

Secondary containment system means a system designed, installed and operated to prevent any release of contaminants from the system, or containers within the system, to land, **groundwater**, or surface waters.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

1. a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
2. a motel, hotel or hostel; or
3. a kindergarten, school, university or other educational institution; or
4. a medical centre or hospital; or
5. a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
6. a public park or garden; or
7. for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.

Substantial low frequency noise means a noise emission that has an unbalanced frequency spectrum shown in a one-third octave band measurements, with a predominant component within the frequency range 10 to 200 Hz. It includes any noise emission likely to cause an overall sound pressure level at a noise sensitive place exceeding 55 dB(Z).

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and **groundwater** and any part thereof.

You means the holder of the environmental authority.

END OF ENVIRONMENTAL AUTHORITY