



Licence Holder	Department of Infrastructure and Regional Development
Licence Number	L8791/2013/1
File Number	2012/005807
Category	52 – Electric power generation 73 – Bulk storage of chemicals, etc.
Premises address	Christmas Island Power Station Crown Reserve 47538 Murray Road, Drumsite Christmas Island INDIAN OCEAN TERRITORIES WA 6798 Being Lot 500 on Plan 63606
Expiry date	07 March 2026
Date of amendment	16 February 2018

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act and follows.

Date signed 16 February 2018

Steve Checker

MANAGER LICENSING (WASTE INDUSTRIES)

an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)(CI)

Amendment Notice

This DWER initiated amendment is made pursuant to section 59 of the *Environmental Protection Act 1986 (WA)(CI) (EP Act)* to amend the licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment of the following:

1. An administrative change to the interpretation section of the Licence;
2. Administrative changes to four conditions of the Licence;
3. An administrative change to 'Schedule 1: Maps' to include an additional map to define the process flow of hydrocarbons at the premises;
4. An administrative change to include additional information within the executive summary of the Licence relating to management of air emissions from the premises; and
5. Inclusion of an additional condition relating to hydrocarbon management actions, within condition 1.3.1.

No other changes to any other aspects of the original licence have been undertaken by DWER or via request from the proponent.

The following DWER Guidance Statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Land Use Planning* (February 2017)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)

Amendment Description

An inspection of the Christmas Island Power Station was undertaken on 17 August 2017 to assess the operation of the premises against the active Licence. During the inspection it was identified that the Licence did not adequately reflect processes, management actions and monitoring locations relating to hydrocarbon management at the prescribed premises.

In addition, minor administrative changes were required to more accurately reflect the processes and operation of the premises. Additional information has also been included within the executive summary to describe the air emission controls used at the premises.

In order to address these issues, six conditions underwent administrative changes and one additional condition was included into the active Licence (L8791/2013/1).

Location, environmental siting and potential receptors

The Christmas Island Power Station is located on Christmas Island approximately 1,560 kilometres northwest of Exmouth. The facility is managed and operated by the Indian Ocean Territories Power Service (IOTPS), a business unit of the Department of Infrastructure and Regional Development. IOTPS seeks to provide electricity to the community at Christmas Island in an environmentally responsible manner, and at the lowest cost.

The facility operates seven diesel (distillate-oil) fired generators, comprised of the following:

Instrument identification	Manufacturer	Output capacity	Operation
Generator 4	Allen	2.8MW	Back-up unit
Generator 5	Ruston	3.4MW	Frontline unit
Generator 6	Ruston	3.4MW	Frontline unit
Generator 7	Wartsila	2.6MW	Frontline unit
Generator 8	Wartsila	2.6MW	Frontline unit
Generator 9	Wartsila	2.6MW	Frontline unit
Generator 10	Wartsila	2.6MW	Frontline unit

The main emissions produced by the power station is gaseous emissions in the form of carbon dioxide, carbon monoxide, sulphur dioxide, oxides of nitrogen and volatile organic compounds from the combustion process used to create steam for power generation.

An environmental management plan and emergency response plan are in place for the power station aimed at minimising environmental impacts and ensuring an appropriate level of emergency response is maintained through implementation of standard operating procedures such as spill management, internal drainage for hydrocarbon management and the appropriate storage of hazardous chemicals. The bulk storage of hydrocarbons is currently managed under Dangerous Goods licence number DGS014963.

In August 2014 a licence amendment was required to include Category 73 – Bulk storage of chemicals, after the completion of works which involved increasing the total storage capacity for hydrocarbons within the premises 1,073 000 million litres for on-site use. Production volumes are likely to be approximately 1,045 000 million litres for the premises at any given time. The increased capacity will offer the power authority additional surety in energy production if and when fuel deliveries are not possible due to incremental weather and large swells. An additional bund wall extending the tank farm has been installed. No additional conditions were required to be added to the Licence to manage the impact of the additional storage capacity of hydrocarbons.

DWER GIS dataset desktop assessment of potential sensitive receptors to the activities of the prescribed premises operation, are shown in the tables below.

Table 2 below lists the relevant sensitive land uses in the vicinity of the prescribed premises.

Table 2: Receptors and distance from prescribed premises

Residential and sensitive premises	Distance from Prescribed Premises
Unallocated Crown Land (UCL)	Adjoins the eastern and southern boundary of the prescribed premises.
Mining lease land	Adjoining the western boundary of the prescribed premises.
Public purpose zoned area (water supply depot)	Adjoining the northern boundary of the prescribed premises
Christmas Island School	Approximately 212 m north of the prescribed premises boundary.
Residential zoned area	Approximately 600 m north of the prescribed premises boundary.

Table 3 below lists the relevant environmental receptors in the vicinity of the prescribed premises.

Table 3: Environmental receptors and distance from prescribed premises

Environmental receptors	Distance from Prescribed Premises
Groundwater resource	Approximately 50 – 100 mBGL, fresh to brackish quality.
Christmas Island National Park	Approximately 198 m south east of the prescribed premises boundary.
Surface water (Indian Ocean)	Approximately 721 m west north-west of the prescribed premises boundary.

Risk assessment

The applicant has applied for a number of administrative amendments that the Delegated Officer considers do not present a material risk to human health or the environment and therefore do not require any additional regulatory controls other than what is already stated within the active Licence. These administrative changes include:

1. The 'Interpretation' section of the Licence has been amended to reflect the updated contact details;
2. Condition 1.2.2 has been replaced, to specify all pollution control and monitoring equipment applicable for the prescribed premises. The intent and context of the condition is still the same as the previous condition;
3. Condition 2.5.1 has been amended to correct a typographical error in the location of 'L1' and details of the source including abatement measures;
4. Condition 3.5.1 has been amended to address a typographical error, to accurately reflect the correct monitoring point location for the premises;
5. Condition 5.2.1 has been amended with the inclusion of an additional reporting parameter as a result of the inclusion of the new condition within section 1.3.
6. 'Schedule 1: Maps' has undergone a change with the inclusion of an additional map. The inclusion relates to a process flow diagram of hydrocarbons at the premises and relevant applicant controls.

The proposed inclusion of one additional condition into the active Licence, relating to hydrocarbon emissions, is associated with the potential material risk to human health or the environment from the operation of the premises. Hydrocarbon emissions are associated with the following sources:

- Discharge pipeline (manually locked) of contaminated liquid waste from the bunded area associated with the mascot separator and storage tanks via storm water drainage, and out to ocean outfall (L1).

All oily water/ hydrocarbon waste water is required to be treated through, at least, the disk skimmer and Coalescing Plate Interceptor (CPI) prior to discharge and then released via the storm water drainage to ocean outfall. Additional treatment of a portion of the waste oil/ oily water is also diverted through the mascot separator prior to going to the disc skimmer and CPI as well. No discharge of any contaminated liquid waste (i.e. hydrocarbons) is to be discharged via the L1 pipeline, at any stage.

- Uncontrolled flow of treated waste water from the disc skimmer (L2) and CPI via the storm water drainage and out to ocean outfall (L3).

In the event of the disk skimmer failing/ malfunctioning, all waste water is still able to be processed through the CPI. Once treated through the CPI it is automatically released via the storm water drainage system and out to ocean outfall. Any failure of the disc skimmer does also allow for the sump to be manually closed off prior to being released to the CPI with additional storage area for liquid waste available in an additional storage area, known as 'compound 2 – fuel bund'. A second pipeline exits directly from the disc skimmer to storm water pipeline, which is manually operated and is kept locked at all times.

The inclusion of the additional condition within the active Licence (L8791/2013/1) is considered to give additional and appropriate regulatory controls associated with this potential emission source.

Table 4 below describes the Risk Events associated with the amendment, and is consistent with the *Guidance Statement: Risk Assessment (February 2017)*.

Table 4: Risk assessment for proposed amendments during operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts					
<i>Disk skimmer L2 discharge pipeline, Mascot separator L1 pipeline</i>	Processing and discharging of contaminated waste water	Hydrocarbon contaminated waste water	Soil, vegetation and surface water (Indian ocean)	Land	Contamination of localised soil profile, impact on soil microbes and vegetation, surface water and aquatic life impact	Moderate	Possible	Medium	<p>Two manually operated pipelines exist that can result in the discharge of hydrocarbon contaminated waste from the premises. Potentially these pipelines could result in an unauthorised discharge resulting in pollution or environmental harm to land or surface water.</p> <p>Additional regulatory controls were required to ensure that the Licence requires these discharge pipelines to stay locked at all times and that no discharges occur through these pipelines.</p>

Decision

The Delegated Officer considers that the administrative changes undertaken through this amendment process do not change any of the obligations of the Licence Holder for the ongoing management of the premises in accordance with DWER regulatory controls. The proposed administrative amendments do not present a material risk to human health or the environment and therefore do not require any additional regulatory controls other than what is already stated within the active Licence. No additional risk assessment has been undertaken for the administrative amendments as a result of this amendment process.

As a result of an inspection undertaken at the premises on 17 August 2017, it was identified that the hydrocarbon conditions within the Licence did not accurately reflect the hydrocarbon process and management controls. A risk assessment for hydrocarbon emissions has been undertaken (see Table 4). The Delegated Officer considers that the inclusion of the new condition is:

- appropriate;
- consistent with the regulatory controls applied across the State;
- in accordance with the requirements of the *Environmental Protection Act 1986* and subsidiary legislation; and
- as regulated under DWER guidance shown within Appendix 1 of the Amendment Notice.

Amendment History

Table 5 provides the amendment history for L8791/2013/1.

Table 5: Licence amendments

Instrument	Issued	Amendment
L8791/2013/1	29/04/2016	Amendment Notice 1– Amendment to extend licence duration to 7 March 2026.
L8791/2013/1	16/2/2018	Amendment Notice 2 – Amendment to address hydrocarbon management.

Licence Holder's Comments

The Licence Holder was provided with the draft Amendment Notice on 19 January 2017. No comments were received from the Licence Holder. A signed waiver was submitted to DWER via email on 7 February 2018, as shown in Appendix 1 and 2.

Amendment

1. Section 1. General, 1.1 Interpretation, has been updated, through an administrative change, to reflect the new contact details as shown in red strike through and italics in the text below:

~~*'CEO' for the purpose of correspondence means;
Indian Ocean Territories Environmental Officer, Environmental Regulation Division,
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9080 5504*~~

~~*'CEO' for the purpose of correspondence means;*~~

~~*Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info-der@dwer.wa.gov.au*~~

2. Condition 1.2.2 has been replaced as shown by red strike through and italics in the text below:

~~*1.2.2 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.*~~

~~*1.2.2 The Licensee must operate and maintain:*~~

- ~~*(a) all bunds, concrete hard stands, oil/ water separators, sumps, stormwater culverts, containment trenches and associated pipelines to design specifications; and*~~

(b) *air filters and temperature probes to the manufacturer's specification.*

3. Condition 2.5.1 has been amended as shown by red italics in the text below:

2.5.1 *The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.5.1 it is done so in accordance with the conditions of this licence.*

Table 2.5.1: Emission points to land		
Emission point reference	Description	Source including abatement
L1 <i>(See Schedule 1: Maps)</i>	<i>Untreated liquid waste discharge pipelines</i>	<ol style="list-style-type: none"> <i>1. No untreated liquid waste to be discharged via L1 or L2 emission point to storm water drainage pipeline.</i> <i>2. Pipelines to be locked at all times, except when tank is under maintenance and/ or contents has been determined (through testing) to meet required parameter levels for hydrocarbons.</i>
L2 and L3 <i>(See Schedule 1: Maps)</i>	<i>Discharge to treated stormwater pipe</i>	<ol style="list-style-type: none"> <i>1. All waste water discharged from via disk skimmer and coalescing plate interceptor (CPI), prior to discharge.</i>

4. Section 1.3 has been amended with the addition of one new condition as shown in red italics and strike through in the text below:

1.3 Premises operation

~~*There are no specified conditions relating to Premises operation in this section.*~~

1.3.1 *The Licensee must undertake the management action specified in Table 1.3.1 in the case of an event listed in Table 1.3.1.*

Table 1.3.1: Management actions			
Emission point	Event/ action reference	Event	Management action
<i>Oil/ water separators</i>	<i>EA1</i>	<i>Failure or malfunction or abnormal operation period resulting in elevated hydrocarbon sampling from L2</i>	<ol style="list-style-type: none"> <i>1. Ensure no discharge of waste water is released from oil/ water separator by locking outflow pipe in 'closed' position or transferring contained waste water to an impermeable holding facility;</i> <i>2. Assess and undertake maintenance or upgrades on the treatment process prior to reloading the separator.</i> <i>3. Transfer untreated waste water back through the system and re-sample to ensure parameter limits are being achieved.</i> <i>4. Once parameter sampling limits are achieved, treated waste water may be</i>

			<i>discharged from the oil/ water separator to the Coalescing Plate Interceptor (CPI) and via the stormwater pipeline to ocean outfall.</i>
<i>Hydrocarbon contaminated waste water or soil from banded facilities</i>	<i>EA2</i>	<i>Hydrocarbon spills within banded structures</i>	<i>1. Transfer all contaminated storm water held within bunds or trenches (that is potentially contaminated with hydrocarbons), and process through an oil/ water separator or an appropriate recycling/ disposal facility.</i>

5. Condition 3.5.1 has been amended as shown in red italics and strike through in the text below:

3.5.1 *The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.*

Table 3.5.1: Monitoring of point source emissions to land

Emission point reference	Parameter	Units	Frequency
L1 , L2 and L3	Hydrocarbons (TRH)	mg/L	Six monthly

6. Condition 5.2.1 has been amended as shown in red italics in the text below:

5.2.1 *The Licensee shall submit to the CEO an Annual Environmental Report within 92 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.*

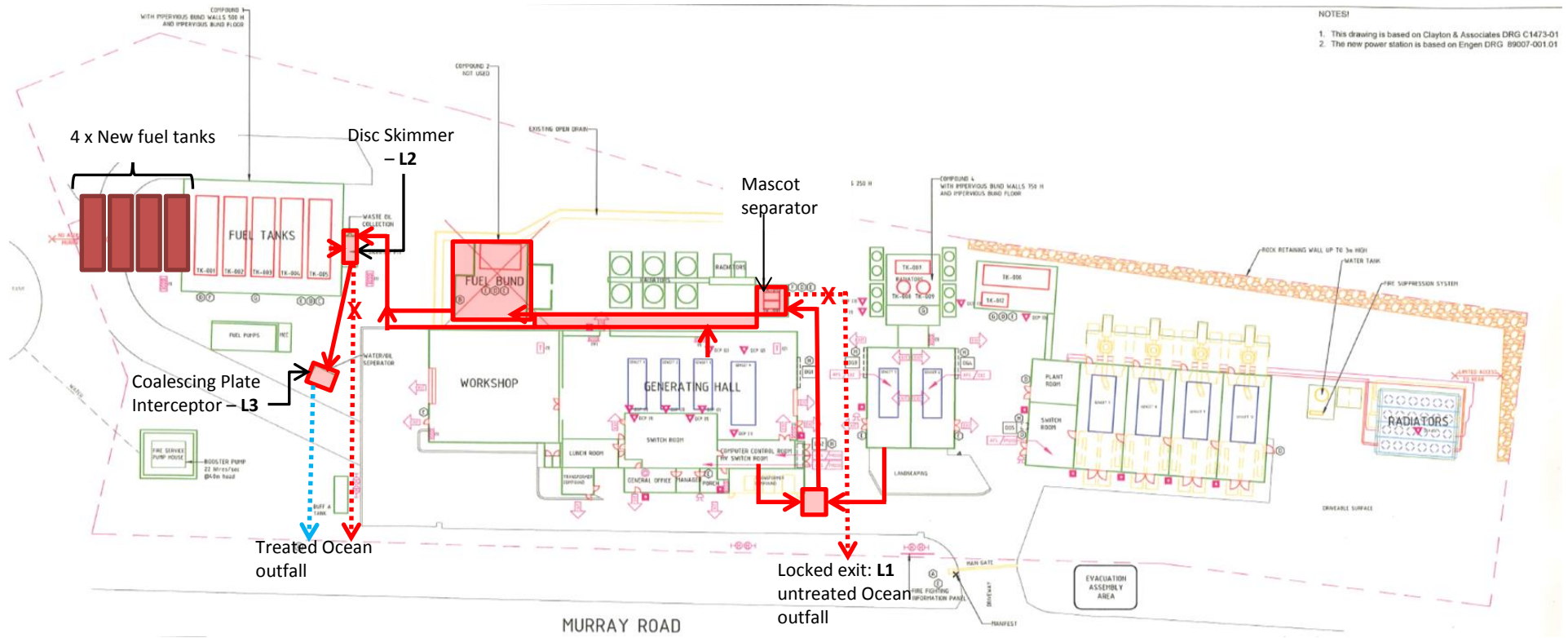
Table 5.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form¹
-	<i>Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken</i>	<i>None specified</i>
<i>1.3.1</i>	<i>Summary of management actions undertaken</i>	<i>None specified</i>
<i>Table 2.5.3</i>	<i>Target exceedances</i>	<i>None specified</i>
<i>Table 3.5.1</i>	<i>Hydrocarbons (TRH)</i>	<i>LR1</i>
<i>Table 3.6.1</i>	<i>Monitoring of inputs and outputs</i>	<i>None specified</i>
<i>Table 3.6.2</i>	<i>Monitoring of diesel inputs</i>	<i>None specified</i>
<i>5.1.3</i>	<i>Compliance</i>	<i>Annual Audit Compliance Report (AACR)</i>
<i>5.1.4</i>	<i>Complaints summary</i>	<i>None specified</i>

Note 1: Forms are in Schedule 2

SCHEDULE 1: MAPS

Process flow diagram of hydrocarbon management



NOTES:
 1. This drawing is based on Clayton & Associates DRG C1473-01
 2. The new power station is based on Engen DRG 09007-001.01

- Key**
- Hydrocarbon contaminated liquid waste process flow direction
 - Treated waste water discharge pipeline
 - Untreated hydrocarbon contaminated liquid waste pipeline (locked)

Appendix 1: Key Documents

	Document Title	In text ref	Availability
1	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	DER2014/001365	accessed at http://www.dwer.wa.gov.au
2	DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	N/A	
3	DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	N/A	
4	DER, February 2017. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER2015/001284	
5	DER, February 2017. <i>Guidance Statement: Land Use Planning</i> . Department of Environment Regulation, Perth.	DER2014/003028	
6	Email: Proposed amendment to licence L8791/2013/1, from Mr John Ford, Department of Infrastructure, Regional Development and Cities.	7/02/2018 Waiver Form	DWER record (A1613717)

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 19 January 2018 for review and comment. No comments were submitted on the draft Amendment Notice.