Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 2

Licence Number	L8650/2012/1
Licence Holder	Chevron Australia Pty Ltd
ACN	086 197 757
File Number	DER2014/002939
Premises	Ashburton North Village and LNG Plant Temporary Utilities Part of Lots 1577 on Plan 72843, 560 on Plan 71346, 509 on Plan 69198, 519 on Plan 69198, 561 on Plan 71346, 564 on Plan 71346, 565 on Plan 71346, 575 on Plan 71345, 570 on Plan 71345, 567 on Plan 71345, 569 on Plan 71345 and 400 on Plan 72906 TALANDJI WA 6710
Date of Amendment	13 December 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* (EP Act) 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.

Caron Goodbourn

Acting Manager, Process Industries

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ANZECC and ARMCANZ (2000)	Australian and New Zealand guidelines for fresh and marine water quality. Volume 1, The guidelines / Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DEC	The former Department of Environment and Conservation
DER	The former Department of Environment Regulation
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EQC	Environmental Quality Criteria
EQG	Environmental Quality Guideline
EQS	Environmental Quality Standard
EQO	Environmental Quality Objective
EQVR	Combined Discharge Effluent Quality Validation Report
EV	Environmental Value
LEP	Level of Environmental Protection
mg/L	Milligrams per litre
Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
NEPM	National Environment Protection (Ambient Air Quality) Measure
OEMMP	Operations Environmental Monitoring and Management Plan
OEPA	The former Office of the Environmental Protection Authority

Term	Definition
Premises	refers to the premises to which this Amendment Notice applies, as specified at the front of this Amendment Notice.
Risk Event	as described in *Guidance Statement: Risk Assessment*
STP	Sewage Treatment Plant
TMO	Temporary Marine Outfall

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (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 to amendments for Category 52: Electric power generation and Category 54: Sewage facility and the associated discharge of waste to the marine environment via a Temporary Marine Outfall (TMO), from the Fly Camp Sewage Treatment Plant (STP), and for reuse on the sports oval and for dust suppression.

The guidance statements which have informed the decision made on this amendment are listed in Appendix 3

Amendment description

Chevron Australia Pty Ltd (Chevron) engaged Bechtel (Western Australia) Pty Ltd (Bechtel) as the prime contractor to undertake engineering design, procurement and the management of all construction aspects of the Wheatstone LNG Project.

Licence L8650/2012/1 for the Ashburton North Village Temporary Utilities was previously held by Bechtel. The licence was transferred to Chevron on 18 September 2018 when it assumed operational control of the premises. The premises infrastructure consists of a diesel fired power station capable of producing 20.8MW, a 1,100m^3 diesel storage facility and several sewage treatment plants (STPs):

- 600 EP STP (168m^3/day);
- Construction Village STP (1,920m^3/day);
- Construction Village Expansion Camp STP (168m^3/day); and
- Fly Camp STP (205m^3/day) (not yet commissioned); and
- Temporary Marine Outfall (TMO).

The TMO was constructed and commissioned under Works Approval W5439/2013/1. It is designed to discharge treated wastewater generated by the STPs, reject brine from the desalination plant, and other waste streams. Wastewater is discharged to the ocean via an outfall diffuser located approximately 2km offshore and 5m below the level of the lowest astronomical tide (see Location Plan in Appendix 1).

During normal operating conditions, treated wastewater is directed to two combined effluent equalisation tanks prior to being discharged to the marine environment via the TMO. If necessary due to operational requirements, effluent may also be discharged to irrigation areas currently authorised in the licence (emission points L1, L2 and L3).

A licence amendment application was submitted in 2015 by Bechtel (as Licence Holder at that time) to incorporate a range of expansion works that had been constructed and commissioned. The requested amendments were the subject of Amendment Notice 1 granted on 30 June 2017. Assessment of the Temporary Marine Outfall (TMO), which formed part of the application, was deferred pending further discussions with the former Office of the Environmental Protection Authority (OEPA). DWER has now initiated these amendments through this Amendment Notice.

On 22 September 2018, a further licence amendment application was submitted by Chevron (as the new Licence Holder) requesting the following additional changes to the licence:

- The removal of Category 52: Electric power generation as the construction village power station has mostly been decommissioned with only four diesel-fired generators remaining on the premises. The remaining generators have a total design capacity of 6.4 MW, which is below the threshold for Category 52 (10MW or more in aggregate using a fuel other than natural gas)
- The removal of the Fly Camp STP as the plant has been decommissioned. The Pioneer accommodation camp and Fly accommodation camp, previously serviced by the Fly Camp STP, have not been operational since September 2017 and January 2018 respectively. The Fly Camp STP ceased operations in April 2018. Although the plant remains on the Premises, the input valve is closed preventing waste entering the system. Removal of the equipment from the Premises is scheduled to be completed by December 2018.
- The removal of the conditions relating to reuse of wastewater on the sports oval and for dust suppression, as Chevron does not intend to use wastewater for these purposes.

Table 2 below outlines the proposed changes to the production design capacity on the licence.

Table 2: Proposed design capacity changes

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
52	20.8 MW	6.4 MW	Design capacity below the category 52 threshold and therefore the category has been removed
54	2,461 m^3/day	2,256 m^3/day	Removal of Fly Camp STP

Other administrative changes have been made to update the premises plans. Given the significant number of licence amendments made in this notice and the notice granted on 30 June 2017, a new version of the licence has been consolidated and is provide at Attachment 1. Condition and tables numbers have been updated to reflect changes made.

Other approvals

Other approvals relating to the premises are outlined in Table 3.

Table 3: Relevant approvals

Legislation	Reference	Approval
EP Act – Part IV	Ministerial Statement No. 873 Approved 30 August 2011 (MS873)	Authorises the construction and operation of a 25 million tonne per annum Liquefied Natural Gas (LNG) facility and associated Domestic Gas facility in the Ashburton North Strategic Industrial Area 12km south-west of Onslow. Includes permanent and temporary facilities.
EPBC Act	EPBC Act Referral 2008/4469 Approved 22 September 2011	Approves the construction and operation of LNG and domestic gas plant and onshore and offshore facilities, state and commonwealth waters, Pilbara Coast, WA.

Part IV of the EP Act

Ministerial Statement 873

The proposal to construct and operate the Wheatstone Project LNG Plant was referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act and the level of assessment set at Public Environmental Review (PER). In June 2011, the EPA released its report and recommendations on the project (Report 1404), and Ministerial Statement No. 873 (MS873) was granted on 30 August 2011.

In its assessment of the discharges from the TMO, the EPA determined that the risks resulting from marine discharges could be minimised to an acceptable level by implementation of conditions, specifically Condition 13 of MS873 (see Appendix 2).

Conditions 13-1 to 13-7 relate to the environmental quality management framework and location of the wastewater discharges; Conditions 13-8 to 13-10 relate to offshore accommodation vessel marine discharge infrastructure; Conditions 13-13 and 13-14 relate to the quality of offshore accommodation vessel discharges; Conditions 13-15 relates to reporting; and Conditions 13-16 and 13-17 relate to the discharge of hydrostatic test water.

Conditions 13-11 and 13-12 of MS873 are relevant to the quality of all wastewater discharges from the Premises. The status of each requirement of these conditions are shown in Table 4 below:

Table 4: Conditions 13-11 and 13-12 of MS873

Condition	Requirement	Status
13-11	Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall submit a report to the DEC that:	Complete - Construction Onshore Facilities Wastewater Discharge Plan submitted to the Department prior to the grant of Works Approval W5439/2013/1. Validation monitoring was carried out in accordance with this plan to verify the performance of the outfall diffuser.
13-11(i)	spatially maps the areas where each environmental quality objective and level of ecological protection is to be achieved;	
13-11(ii)	identifies the environmental quality criteria, for constituents of the discharge considered relevant by the DEC, that should be achieved to maintain the environmental quality objectives and levels of ecological protection established through condition 13-1;	

Condition	Requirement	Status
13-11(iii)	predicts the toxicity of the final discharge under typical conditions;	
13-11(iv)	predicts the number of dilutions necessary to meet the required environmental quality objectives and level of ecological protection. For example, a moderate level of protection at the boundary of a Low and Moderate Ecological Protection Area and a high level of protection at the boundary of a Moderate and High Ecological Protection Area, or to meet a high level of protection at the boundary of a Low and High Ecological Protection Area (predictions are based on achieving environmental quality criteria and effluent toxicity); and	
13-11(v)	presents contingency options for additional treatment or extending the diffuser to achieve greater dilutions if required.	
13-12	Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall develop an Effluent Quality Validation and Reporting Plan in consultation with the DEC that addresses the following issues:	
13-12(i)	Whole Effluent Toxicity Testing program for determining: a. the actual toxicity of any discharge post commissioning and post operation of the outfall and following any significant change in effluent composition; and b. the number of dilutions required to achieve each relevant level of ecological protection testing is to be undertaken on a minimum of five locally relevant species from four different taxonomic groups using the recommended protocols from ANZECC and ARMCANZ (2000);	Complete - an EQVR was submitted to the OEPA detailing the results of validation monitoring. Data collected and reported in the EQVR was used to inform the development of water quality / environmental triggers for the ongoing management of the TMO discharge. On 5 December 2016, the OEPA confirmed that the Licence Holder had the met the requirements of Condition 13-12
13-12(ii)	characterisation of any waste water discharge under typical operational conditions and after any significant changes in effluent composition;	
13-12(iii)	a revised set of environmental quality criteria based on the contaminants of concern identified from condition 13-12(ii);	
13-12(iv)	given the results from conditions 13-12(i) (ii) and (iii), the number of dilutions required to achieve the environmental quality objectives and levels of ecological protection identified in condition 13-1 and described in Schedule 2; and	

Condition	Requirement	Status
13-12(v)	reporting to the DEC within 6 months of commissioning of a discharge or within 6 months of any significant change in composition of a discharge, including any management actions necessary to ensure ongoing compliance with the environmental quality objectives and levels of ecological protection established through condition 13-1 and described in Schedule 2.	

In their report, the EPA made several recommendations regarding the ongoing regulation of the TMO under Part V of the EP Act, including a recommendation for the proponent to prepare an Effluent Discharge and Environmental Quality Monitoring and Management Program. In response to this recommendation, an Operations Environmental Monitoring and Management Plan (OEMMP) was developed, which describes how the discharge from the outfall will be managed and to ensure that the requirements specified in MS873 will be achieved. The water quality and environmental triggers specified in the OEMMP are based on data collected during validation monitoring undertaken in accordance with MS873 and the Construction Onshore Facilities Wastewater Discharge Plan.

The following documents were submitted to support the licence amendment and to satisfy the requirements of MS873:

- *Operations Environmental Monitoring and Management Plan (OEMMP),* dated August 2016;
- *Construction Onshore Facilities Wastewater Discharge Plan Rev 4*, dated February 2016; and
- *Combined Discharge Effluent Quality Validation Report Rev E* (EQVR), dated September 2015.

Consultation – previous Licence Holder

Bechtel was provided with a draft Amendment Notice considering the TMO amendments only on 19 April 2018 for review and comment. Bechtel responded on 17 May 2018 and, after further discussion with DWER, provided a supplementary response on 14 June 2018. Bechtel was provided with a revised draft Amendment Notice on 1 August 2018 for review and comment and provided comments on 10 August 2018. As the new occupier of the Premises, further amendments were provided to Chevron on 5 December 2018. Comments received from Bechtel and Chevron have been considered in this Amendment Notice as detailed in the Decision section.

Amendment history

Table 5 provides the amendment history for Licence L8650/2012/1.

Table 5: Licence amendments

Instrument	Issued	Amendment
L8650/2012/1	28/06/2012	New application – category 85 (Pioneer Camp)
	20/12/2012	Amendment to add the Fly Camp and 456-bed camp expansion.
	21/11/2013	Amendment to add the 600 EP STP and second irrigation field.

Instrument	Issued	Amendment
	27/11/2014	Amendment to add Trains 1 to 3 of the Construction Village STP, remove the Pioneer Camp STP, Fly Camp STP and 456 Bed Camp Expansion STP, and upgrade the design capacity of the 600 EP STP. Addition of the first three stages of the Construction Village Power Station. Addition of the LNG Plant Long Term Fuel Facility.
	20/08/2015	Amendment to allow the Fly Camp STP to be recommissioned and allow the reuse of treated effluent for irrigating the sports oval.
	29/04/2016	Amendment by notice to extend the date of expiry to 1 July 2021.
	30/06/2017	Amendment Notice 1. Addition of Stage 4 of the Construction Village Power Station, Construction Village Expansion Camp STP, and Train 4 of the Construction Village STP.
	18/09/2018	Transfer from Bechtel (Western Australia) Pty Ltd to Chevron Australia Pty Ltd.
	13/12/2018	Amendment Notice 2. Addition of Temporary Marine Outfall. Remove Category 52: Electric power generation, the Fly Camp STP and conditions relating to reuse of wastewater for dust suppression.

Location and receptors

The OEMMP describes that '*The TMO discharges into coastal waters off the North West Shelf* [of Western Australia]*. Strong inshore currents on the North West Shelf are dominated by tidal exchange driven by large semidiurnal tides (two high and low tides each day)*'.

The relevant Environmental Values (EVs) identified in the OEMMP are:

- *Ecosystem Health (an ecological value);*
- *Fishing and Aquaculture (a social value); and*
- *Recreation and Aesthetics (a social value).*

Five Environmental Quality Objectives (EQO) have been identified, which must be achieved for the Licence Holder to maintain the EVs during TMO operations:

- *Maintenance of Ecosystem Integrity (EQO1): Discharge has the potential to impact on ecosystem structure and function.*
- *Maintenance of seafood for Human Consumption (EQO2): edible filter feeder shellfish not exploited around the TMO and the discharge is treated for pathogens, but there remains the potential for pathogens in WWTP component of the discharge.*
- *Maintenance of Primary Contact Recreation Values (EQO4): the discharge is treated for pathogens, but there remains the potential for pathogens in WWTP component of the discharge. There is the potential for Primary contact by site dive teams.*
- *Maintenance of Secondary Contact Recreation Values (EQO5): the discharge is treated for pathogens, but there remains the potential for pathogens in WWTP component of the discharge. There is the potential for Secondary contact by marine contractors on site.*
- *Maintenance of Aesthetic Values (EQO6): Discharge has the potential to impact on aesthetics.*

For the objective to maintain ecosystem integrity (EQO1), four Levels of Ecological Protection (LEP) are recognised (Low LEP, Moderate LEP, High LEP, and Maximum LEP). These levels may be applied to separate areas of the marine ecosystem; with the intent that the overall integrity the ecosystem is protected. For the Premises, a Low LEP area extends to a radius of 70m from the TMO diffuser. The Low EPA area is wholly contained within a larger Moderate LEP area assigned to the Premises' port and ship turning area. Waters beyond the Moderate LEP area are designated as a High LEP area. The LEP areas are shown on the Location Plan in Appendix 1.

Risk assessment

Table 6 describes the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*, identifying whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 6: 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				
Cat 54	Wastewater treatment facilities (STPs, desalination plant etc.)	Discharge of wastewater to marine environment via TMO	Marine ecosystem (Low and Moderate LEP areas)	Via TMO diffuser	EQOs not achieved and EV not maintained (potential loss of benthic habitat, injury or death of marine fauna and fish species)	Minor	Almost Certain	Medium	See Risk Assessment section

Risk Assessment – TMO discharge

Discharge of treated wastewater to the marine environment from the TMO

Treated wastewater is discharged to the marine environment via a single outfall 1,800m offshore. If the discharged wastewater does not meet established criteria, there is a risk that the identified EQOs will not be met, and the EVs of the marine environment will not be maintained.

Identification and general characterisation of emission

The composition of water discharged from the TMO will consist of both treated sewage from the various STPs and reject water from the reverse osmosis plant. Works Approval W5439/2013/1 contains a list of potential contaminants of concern associated with the discharge, which has been updated based on data gained through the EQVR. Potential contaminants of concern have been selected based on:

- *Concentration in the discharge;*
- *An assessment of the risk posed by each parameter as identified in the EQVR; and*
- *The availability of appropriate guidelines and/or targets to assess risk.*

The potential contaminants of concern are listed in Table 7 below:

Table 7: Potential contaminants of concern (from Table 3.2 of OEMMP)

Parameter	Comments
Flow rate	An assumption of the model and required to ensure model assumption are met Level 1 trigger
Chlorine	Available analysis lacks sensitivity
Aluminium	High naturally occurring background (concentrations similar to effluent)
Cadmium	Has potential to bioaccumulate Required by Schedule 2 of MS873
Chromium	Present in the discharge
Copper	Contaminant previously present Potential for introduction by infrastructure
Lead	Potential contaminant
Mercury	Has potential to bioaccumulate Required by Schedule 2 of MS873
Nickel	Contaminant previously present Potential for introduction by infrastructure
Silver	Present in the discharge
Vanadium	Contaminant previously present Potential for introduction by infrastructure
Zinc	Present in the discharge
Oil and Grease	Chevron internal standard Monitor as total recoverable hydrocarbons
TDS	Required for reverse osmosis potential impact assessment
Ammonia	Not previously measured Potentially toxic Common constituent in combined effluent Should be added as a contaminant of concern
TN	Common constituent of combined effluent Required for combined effluent potential impact assessment
NOx	Common constituent of combined effluent Required for combined effluent potential impact assessment
TP	Common constituent of combined effluent Required for combined effluent potential impact assessment

Parameter	Comments
FRP	Common constituent of combined effluent Required for combined effluent potential impact assessment
Biochemical oxygen demand	Important control on DO after discharge Required to assess risk to offshore DO
Faecal coliforms	Common constituent of combined effluent Required to assess risk to seafood safety
Enterococci	Common constituent of combined effluent Required to assess risk to primary/secondary contact recreation.

Description of potential adverse impact from the emission

Elevated levels of contaminants of concern will mean the relevant EQO is at risk of not being met and therefore the associated EV may not be maintained.

Criteria for assessment

The OEMMP defines two levels of Environmental Quality Criteria (EQC) for key indicators applicable to each EQO:

1. *Environmental Quality Guidelines (EQGs) are quantitative, investigative guidelines which signify low risk of an environmental effect if they are met, and trigger further investigations if an exceedance occurs. If monitored values are below the EQG then the EQO are considered to have been met and the EVs protected; routine monitoring then continues as per the requirements of this plan. If an EQG is exceeded it suggests the associated EQO is at risk of not being met. This triggers the need for a more comprehensive assessment against the Environmental Quality Standards (EQSs).*
2. *Assessment against an EQS involves a risk-based approach that integrates more refined measures of the surrogate indicators and direct measures of the EQO. Where the EQS is exceeded it triggers a detailed investigation, including an adaptive management action to ensure the EQO is achieved and the exceedance does not occur again. The level and type of management action depends upon the nature of the exceedance, and would include consideration of the natural background/baseline levels, guideline or standard criteria and/or the severity of observed environmental conditions. EQSs are management guidelines which if exceeded signify that the EQO is not being met and that a management action is required.*

EQC that can be measured onshore have been back-calculated from the existing offshore targets in Works Approval W5439/2013/1. The OEMMP considers the works approval offshore targets are appropriate because:

- *The toxicant targets were derived from the ANZECC & ARMCANZ (2000) guidelines for marine waters; and*
- *The offshore microbial EQC are based on EPA* [guidance].

The EQC have been back-calculated using a dilution factor and formula as follows:

EQC = (Dilution x (Existing Offshore Target – Baseline)) + Baseline

The 5th percentile dilutions of 1:124 at the high LEP boundary and 1:83 at the moderate LEP boundary have been used to derive toxicant trigger values and are considered appropriate. The EQC as calculated are shown in Table 8 below.

Table 8: Onshore EQC derived from Moderate and High LEP targets (derived from Table 3.3. of OEMMP)

Parameter	Baseline concentration (mg/L unless indicated)	Existing Moderate LEP target (mg/L unless indicated)	Onshore EQC back-calculated based on modelled Moderate LEP dilution (1:83 for all water quality parameters) (mg/L unless indicated)	Existing High LEP target (mg/L unless indicated)	Onshore EQC back-calculated based on modelled High LEP dilution (1: 124 for all water quality parameters) (mg/L unless indicated)
Chlorine	<0.1	NA	NA	0.003	0.37
Aluminium	<0.01	0.069	5.73	0.0021	0.26
Cadmium[1]	0.000005	0.014	N/A	0.0007	N/A
Chromium (III)	0.00017	0.049	4.05	0.0077	0.93
Chromium (VI)	0	0.020	1.66	0.00014	0.017
Copper	0.00016	0.003	0.24	0.0003	0.018
Lead	0.00001	0.0066	0.55	0.0022	0.27
Mercury[1]	0.0000004	0.0007	N/A	0.0001	N/A
Nickel	0.0005	0.2	16.6	0.007	0.81
Silver	0.00012	0.0018	0.140	0.0008	0.084
Vanadium	0.0011	0.16	13.2	0.050	6.07
Zinc	0.0039	0.023	1.90	0.007	0.85
Oil and Grease (mg/L)	2.5	NA	NA	0.25	31
Total dissolved[2] solids (mg/L)	39,000	39,500	80,500	39,400	88,600
Biochemical Oxygen Demand, 5-day (mg/L)	NA	NA	NA	NA	NA
Faecal coliforms[3] (orgs/100 mL)	0	14	NA	14	NA
Enterococci[3] (orgs/100 mL)	0	200	NA	200	NA

Parameter	Baseline concentration (mg/L unless indicated)	Existing Moderate LEP target (mg/L unless indicated)	Onshore EQC back-calculated based on modelled Moderate LEP dilution (1:83 for all water quality parameters) (mg/L unless indicated)	Existing High LEP target (mg/L unless indicated)	Onshore EQC back-calculated based on modelled High LEP dilution (1: 124 for all water quality parameters) (mg/L unless indicated)
Flow rate (m^3/hour, daily average; onshore target)	NA	NA	NA	NA	NA

Notes:
1. Potentially bio-accumulating compound, therefore calculated EQCs are not appropriate to ensure adequate environmental protection:
2. EQCs have been calculated using a dilution rate of 1:83 at the Moderate LEP and 1:124 at the High LEP; and
3. Calculated EQCs not appropriate for pathogens. Pathogens to be measured in tank (i.e. at EQ1) to ensure adequate environmental protection.

Nutrient trigger values, with the exception of ammonia, are the nutrient loads calculated utilising the effluent quality data collected during validation commissioning and an average daily design flow rate of 527m^3/hr derived from the Construction Onshore Facilities Waste Water Discharge Plan (COFWWDP).

Ammonia monitoring was not required under the COFWWPD; therefore, the load based trigger has been calculated using the first 12 months post-commissioning onshore monitoring data and the same average design flow rate of 527m^3/hr. The first 12 month period was used to derive the trigger value for ammonia as the data showed greater process variability than the next 12 months. The nutrient trigger values as calculated are detailed in Table 9 below.

Table 9: Onshore load based triggers for nutrients

Parameter	Validation monitoring		Post-commissioning monitoring[1]			Trigger values (kg/day)
	Mean concentration (mg/L)	Mean load[2] (kg/day)	Mean concentration (mg/L)	Mean load at average flow rate (kg/day)	Mean load at design flow rate[2] (kg/day)	
Total Nitrogen	4.75	60.1	3.85	16.1	48.6	60
Nitrate + Nitrite	1.92	24.3	1.68	7.0	21.3	24.5
Total Phosphorus	0.65	8.2	0.23	0.96	2.9	8.5
Filterable Reactive Phosphorous	0.52	6.5	0.21	0.88	2.6	6.5
Ammonia	-	-	0.11	0.46	1.4	2.0 [3]

Notes:
1. Monitoring data collected post-commissioning.
2. Loads calculated based on design flow rate of 527m^3/hr.
3. Ammonia trigger value based on the mean measured during monitoring conducted 12 months post commissioning and design flow rate.

Licence Holder controls

The Licence Holder's controls are based on the implementation of the OEMMP, which is based on the following framework:

1. *Establish EQC (quantitative bench marks against which monitoring results can be compared) that demonstrate the EQOs are achieved;*
2. *Undertake targeted monitoring programs relevant to the requirements of the EQC; and*
3. *If necessary, implement management actions to ensure the EQOs are maintained in the long-term.*

Based on the data provided in Tables 8 and 9 above, an Environmental Quality Guideline (EQG) value has been established for each contaminant of concern. The EQG for toxicants is based on the most conservative of the High LEP and Moderate LEP values presented in Table 8. The EQG for nutrients is identified by the trigger values in Table 9. The OEMMP describes the monitoring that the Licence Holder will undertake to ensure that the EQG are being met. In the event of an exceedance of an EQG, an EQS investigation will be undertaken (refer to *Criteria for assessment* above). If an EQS is confirmed as being exceeded, the Licence Holder has identified the following potential management actions that may be taken:

- *Redirecting effluent to temporary storage for later recirculation/recycling through the WWTP(s)* [STPs]*;*
- *Modify existing equipment/facilities;*
- *Modify flow proportions and/or rates;*
- *Investigate options for reuse; and*
- *Transport for further treatment offsite at an approved/licensed facility.*

There is also opportunity to bypass the EQS assessment following exceedance of an EQG to enable prompt implementation of management actions to address any potential impact. This alternative procedure will be implemented on discussion and agreement with DWER.

The OEMMP further describes in more detail the monitoring and management actions that will be undertaken for each of the identified EQOs.

Consequence

If treated wastewater is discharged from the TMO, then the Delegated Officer has determined that the impact to the marine environment will result in minimal on-site impacts if the EQC are met. Therefore, the Delegated Officer considers the consequence of treated wastewater discharged to the marine environment from the TMO to be *Slight*.

Likelihood of Risk Event

The Delegated Officer has determined that the likelihood of treated wastewater being discharged to the marine environment from the TMO occurring will be continuous. Therefore, the Delegated Officer considers the likelihood to be *Almost Certain*.

Overall rating of discharge of treated wastewater to the marine environment from the TMO

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix in the *Guidance Statement: Risk Assessment* and determined that the overall rating for the risk of treated wastewater discharged to the marine environment from the TMO is *Medium*.

Decision

Temporary Marine Outfall (TMO)

The location, construction and commissioning of the TMO has been assessed and approved by the EPA under Part IV of the EP Act. In its assessment, the EPA determined that risks arising from the ongoing (operational) discharge of treated wastewater to the ocean from the TMO should be regulated under Part V of the EP Act.

In assessing the risks, the Delegated Officer has determined that the discharge of treated water to the ocean from the TMO is acceptable subject to the Licence Holder's controls being conditions of the licence.

The key control for the protection of the EQOs and EVs is the derivation of onshore EQGs. By meeting the EQGs at the point of discharge, the relevant EQOs will be met, and the EVs maintained. These EQGs are applied at the point of discharge from the combined effluent storage tanks. To ensure that the EQGs are implemented, Condition 2.3.1 has been added to the licence to specify the EQGs.

Toxicant EQGs have been taken from the OEMMP and represent the most conservative value between the EQCs established at the High LEP and Moderate LEP area boundaries, except for cadmium and mercury. Cadmium and mercury are potentially bioaccumulating substances; therefore, the calculation and use of EQCs for these parameters are not considered appropriate. Consequently, the EQGs for cadmium and mercury have been set based on the default 80% species protection guideline trigger values from ANZECC & ARMCANZ (2000).

The Delegated Officer also considered that the EQCs for nutrients proposed in the OEMMP were based on inappropriate dilution rates. Therefore, EQGs for nutrients had been calculated based on the 1:83 dilution rate for the Moderate LEP and 1:124 for the High LEP area boundaries. However, during initial consultation on this Amendment Notice, Bechtel indicated that these values would be unnecessarily restrictive in protecting the receiving environment and suggested the use of the median dilution values to derive EQG values for nutrients.

On 16 June 2018, after further discussion, Bechtel provided post-commissioning monitoring data and suggested that load-based trigger values could be used. After consultation with DWER's marine ecosystem experts, the Delegated Officer accepted the use of load-based triggers for nutrients. However, the use of median concentrations as proposed was rejected in preference for the use of mean concentrations. The use of median concentrations does not capture high or extreme concentrations that could occur occasionally and significantly increase the actual annual nutrient load.

Given the nature of the risk posed by pathogens and the absence of a specific exclusion area for the management of recreation and seafood safe for eating, the Delegated Officer considers that it is not appropriate to apply EQGs in the marine environment after dilution. Therefore, the EQCs specified for pathogens have been applied as guideline values at the point of discharge. These EQCs are based on Department of Health advice and the *Environmental Quality Criteria Reference Document for Cockburn Sound* (EPA, 2017). If these criteria are not met at the monitoring point, corrective actions will be implemented to minimise the period the triggers are exceeded.

In Table 2.3.1, the EQGs have been applied over a defined period (Applicable Period) relevant to the parameter. Initial drafts of this Amendment Notice required all Applicable Periods to include a minimum of 12 monthly samples. During consultation, Bechtel commented that the retention in the 12 samples of any value that results in the exceedance of an EQG would skew the final value resulting in unnecessary works relating to investigation and management responses after the initial elevated value has been investigated and remediated. The Delegated Officer has reviewed this and determined the following. Table 2.3.1 has been updated to reflect this:

- For toxicants, the EQGs are based on a 95%ile (i.e. acute exceedances/effects), so any one value greater than the EQG over 12 months would trigger an EQS investigation. Regardless if the EQS is exceeded or not, if the last EQG exceedance value is removed, any further monitoring value that exceeds the EQG will trigger another EQS investigation. Therefore, it is reasonable to remove the exceedance value if the EQS investigation indicates that the effluent was not toxic. It is also reasonable to remove the value if the EQS is also triggered and management action has been undertaken to reduce concentrations of the relevant toxicants; but only after the management action has been implemented. Then the EQG would only be triggered again if concentrations of that particular toxicant were still elevated.
- For TDS, the test is a chronic one based on longer-term cumulative effects (in this case leading to mortality of benthic organisms). The Delegated Officer considers it inappropriate to remove the last EQG exceeding value for this parameter. If the EQS investigation does not find any mortality, the Licence Holder is still expected to monitor for any potential mortality effects until TDS concentrations again meet the EQG. If mortality is observed in-situ, then action should be initiated to ensure the EQO is achieved and observations of mortality continue until there is no observed mortality and the EQG is achieved.
- For faecal coliforms and enterococci, the EQS is also based on a concentration so there is no benefit in removing the last EQG exceeding value from the acute tests (90th and 95th percentiles). The same monitoring data are compared to both EQG and EQS so there is no impost on the Licence Holder.
- For nutrients, the test is again a chronic test (average load over 12 months) and the potential environmental effects tested by the EQS are cumulative. It is not appropriate to remove the last EQG exceeding value. If the EQG is exceeded, but the EQS is not, there should be an on-going management action to check on sediment quality. If the EQS is triggered, then actions should be taken to reduce nutrient loads, and the EQS and EQG continue to be tested until met.

Monitoring to check that the EQGs are met has been included in Condition 3.3.1. The monitoring is based on the programme specified in the Licence Holder's OEMMP.

Existing licence Condition 3.1.1 specifies quality assurance requirements that must be applied to the sampling and analysis requirements of the monitoring. This condition has been amended to remove the exemption relating to sample holding times for all parameters except chlorine and pH. The Delegated Officer considers that adherence to holding times is integral to ensuring accurate results for the monitoring of wastewater parameters but acknowledges that the holding times for pH and chlorine cannot be met.

If the monitoring indicates an exceedance of an EQG, Condition 2.3.2 has been included in the licence to require the Licence Holder to undertake an investigation to determine if there has been an exceedance of the EQS. If the investigation identifies that an EQS has been exceeded, condition 2.3.3 has been included which requires the Licence Holder to take management action to restore the parameter to below the EQG and to investigate any ongoing impacts to the environment. It is expected that the Licence Holder will use the action and investigation framework described in the OEMMP should an exceedance of an EQG be detected.

Following exceedance of an EQG there is opportunity to bypass the EQS investigation and instead implement immediate management actions to address any potential impact. This alternative procedure will be implemented on discussion and agreement with DWER outside of the licence conditions.

The Delegated Officer notes that requirements of other approvals also apply; specifically Condition 13-12ia of MS873 that states that the Licence Holder must develop a '*Whole Effluent Toxicity Testing program for determining:*

a. *the actual toxicity of any discharge post commissioning and post operation of the outfall and following any significant change in effluent composition…'*

An annual Whole Effluent Toxicity (WET) testing program has been developed, which is described in the OEMMP. Whilst MS873 specifies that the WET testing program must be developed, it does not specify reporting requirements. Therefore, Condition 4.2.1 of the licence has been amended to specify that reports on WET testing carried out in accordance with Condition 13-12ia of MS873 must be provided in the Licence Annual Environment Report (AER).

Reporting and notification conditions 4.2.1, 4.2.2 and 4.3.1 have also been updated to account for the changes described above.

Removal of category 52, Fly Camp STP, and conditions relating to reuse of wastewater for dust suppression.

The assessment of the licence identified a risk of air emissions from the construction village power station exceeding the NEPM criteria at the accommodation facilities within the Ashburton North Village. Conditions relating to monitoring ambient air quality at the Fly and Pioneer accommodation camps (including reporting against targets and limits) were included on the licence due to the potential risk to people residing in the camps. Two exceedances of the ambient air quality licence target and one exceedance of the ambient air quality licence limit have been recorded (in 2015) and attributed to emissions from the power station since it commenced operation. Management actions were implemented and no further exceedances have been reported that have been attributed to the operation of the power station.

The Licence Holder has advised that the Fly and Pioneer accommodation camps are no longer operational, removing the receptors associated with risk of air emissions. In accordance with DWER Guidance Statement: Environmental Siting, the Delegated Officer does not consider the remaining worker accommodation camps operated by the Licence Holder to be sensitive receptors. The reduction in power generating capacity from 20.8MW to 8MW has reduced the quantity of emissions from the power station and subsequently reduced the environmental risk associated with operation of the remaining generators.

Accordingly, the Delegated Officer has determined that monitoring conditions relating to the power station are no longer required and has decided to grant the amendment to remove category 52 and associated conditions.

Other requested amendments regarding the removal of the Fly Camp STP and discharge of treated wastewater to the sports oval and for reuse in dust suppression have also been granted with relevant conditions removed from the licence. Although the Fly Camp STP equipment remains on the premises, the input valve is closed and the system is not receiving any waste for processing. The equipment is due to be fully decommissioned and removed from the Premises on by December 2018

The Ashburton North Village is not currently listed as a contaminated site under the *Contaminated Sites Act 2003*. There have been no incidents reported to DWER of hazardous materials such as hydrocarbons or chemicals entering the environment at the power station or the Fly Camp STP indicating that the sites could have become contaminated. The Ashburton North Village remains operational and is subject to requirements under the *Contaminated Sites Act 2003* for reporting contamination, including contamination resulting from the reuse of wastewater for irrigation purposes.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 16 October 2018 and 5 December 2018. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 4.

Amendment

1. The *prescribed premises categories* of the licence are amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

Prescribed premises category
Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
~~52~~	~~Electric power generation: premises (other than premises within category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel.~~	~~10 megawatts or more in aggregate (using a fuel other than natural gas)~~	~~20.8 megawatts~~
54	Sewage facility: premises: (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	100 cubic metres or more per day	~~2,461~~ 2,256 cubic metres per day
73	Bulk storage of chemicals, etc: premises on which acids, alkali or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored	1,000 cubic metres in aggregate	1,100 cubic metres in aggregate

2. Condition 1.1.2 of the licence is amended by the deletion of the following definitions:

'AS 3580.5.1' *means the Australian Standard AS 3580.5.1 Methods for sampling and analysis of ambient air – Determination of oxides of nitrogen – Direct reading instrumental method;*

'commissioning' *means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specifications;*

'NOx' *means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;*

3. Table 1.3.1 of the licence is amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

Table 1.3.1: Waste acceptance			
Waste type	***Waste code***	***Quantity limit***	***Specification[1]***
Sewage	*K130*	*~~2,461~~ 2,256 m³/day*	*Accepted through sewer inflow or tankered in from the Wheatstone project and port facilities*
Septage wastes	*K210*		
Vegetable and food processing liquid wastes	*K200*		
Waste from grease traps	*K110*		
Swimming pool back wash	*N/A*		*Accepted through sewer inflow only*
Industrial wash water contaminated with a controlled waste	*L150*	*60 m³/year*	*Tankered in from the Wheatstone project and port facilities*

4. Table 1.3.2 of the licence is amended by the deletion of the text shown in strikethrough below:

Table 1.3.2: Waste processing		
Waste type	***Process***	***Process requirements***
Sewage	*Biological, physical and chemical treatment via Trains 1-4 of the Construction Village STP*	*1920 m³/day*
Vegetable and food processing liquid wastes		
Waste from grease traps		
Industrial wash water contaminated with a controlled waste		
Swimming pool back wash		
Sewage	*Biological, physical and chemical treatment via the 600 EP STP*	*168 m³/day*
Vegetable and food processing liquid wastes		
Waste from grease traps		
Industrial wash water contaminated with a controlled waste		
Swimming pool back wash		
~~Sewage~~	*~~Biological, physical and chemical treatment via the Fly Camp STP~~*	*~~205 m³/day~~*
~~Vegetable and food processing liquid wastes~~		
~~Waste from grease traps~~		
~~Industrial wash water contaminated with a controlled waste~~		
~~Swimming pool back wash~~		
Sewage	*Biological, physical and chemical treatment via the Construction Village Expansion Camp STP*	*168 m³/day*
Vegetable and food processing liquid wastes		
Waste from grease traps		
Industrial wash water contaminated with a controlled waste		
Swimming pool back wash		

5. Condition 1.3.5 (previously Condition 1.3.6) of the licence is amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

1.3.~~6~~5 The Licensee shall ensure that the irrigation of treated wastewater at emission points L1 and L2 ~~and L3~~ in Table 2.3.1 meets the following:

(a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the irrigation area;

(b) wastewater is evenly distributed over the irrigation field;

(c) soil erosion is prevented from occurring;

(d) weed management measures are implemented to manage the establishment and spread of non-native vegetation species; and

(e) irrigation does not occur on land that is waterlogged.

6. Table 2.2.1 (previously Table 2.3.1) of the licence are amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

Table 2.3~~2~~.1: Emission points to land		
Emission point reference and location on Map of emission points and monitoring locations	***Description***	***Source including abatement***
L1 – L2	*Discharge to two irrigation fields (Irrigation Field East L1 and Irrigation Field West L2) with total area of 26.2ha*	*Treated wastewater from the Construction Village STP (via the Off-Spec Tank)~~, Fly Camp STP~~ and 600 EP STP*
~~L3~~	*~~Discharge to the 2.15ha sports oval~~*	*~~Treated wastewater from the Construction Village STP via the On-spec Tank~~*
L4	*Oily Water Separator (LNG Plant Long Term Fuel Facility)*	*Stormwater that has been treated by an oily water separator*

7. Table 2.2.2 (previously Table 2.3.2) of the licence are amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

Table 2.3~~2~~.2: Emission limits to land			
Emission point reference	***Parameter***	***Limit (including units)***	***Averaging period***
L1 – L2 ~~L3~~	*Loadings rates for total nitrogen*	*480 kg/ha/year*	*Annual*
	Loading rates for total phosphorus	*120 kg/ha/year*	
L4	*Total Recoverable Hydrocarbons*	*15 mg/L*	*Spot sample*

8. The licence is amended by the insertion of the following Condition 2.3.1:

2.3 Emissions to Marine Waters

2.3.1 The Licensee must ensure that emissions specified in Table 2.3.1, are discharged only from the corresponding discharge point and only at the corresponding discharge point location set out in Table 2.3.1.

Table 2.3.1: Marine discharge monitoring				
Emission point reference and location on Premises map	***Discharge point and discharge point location as shown on Premises map***	***Parameter***	***Environmental Quality Guideline (mg/L unless specified)***	***Applicable Period***
EQ1 – discharge line from equalisation tank to outfall	*L5 - TMO discharge*	*Chlorine*	*0.37*	*12 month rolling 95th percentile*
		Aluminum	*0.26*	
		Cadmium	*0.036*	
		Chromium (III)	*0.93*	
		Chromium (VI)	*0.017*	
		Copper	*0.018*	
		Lead	*0.27*	
		Mercury	*0.0014*	
		Nickel	*0.81*	
		Silver	*0.084*	
		Vanadium	*6.1*	
		Zinc	*0.85*	
		Oil and Grease	*30*	
		Total dissolved solids	*80,500*	*12 month rolling median with a minimum of 12 samples*
		Biochemical Oxygen Demand, 5-day	*75*	*Spot sample*
		Flow Rate	*761 m^3/hr*	*Daily average*
		Faecal coliforms[1]	*14 CFU/100mL*	*12 month rolling median with a minimum of 12 samples.*
			21 CFU/100mL	*12 month rolling 90th percentile with a minimum of 12 samples*
		Enterococci	*200 orgs/100mL*	*12 month rolling 95th percentile with a minimum of 12 samples*
		Total Nitrogen	*60 kg/day*	*12 month rolling mean with a minimum of 12 samples*
		Nitrate + Nitrite	*24.5 kg/day*	
		Total Phosphorous	*8.5 kg/day*	
		Filterable Reactive Phosphorous	*6.5 kg/day*	
		Ammonia	*2.1 kg/day*	

Note 1: Analysis using the membrane filtration method.

9. The licence is amended by the insertion of the following Conditions 2.3.2 and 2.3.3:

2.4.1 The Licensee must ensure that if monitoring of any parameter undertaken in accordance with Condition 3.3.2 indicates an exceedance of the Environmental Quality Guideline specified in Table 2.3.1, an investigation will be undertaken to determine if there has been an exceedance of the relevant Environmental Quality Standard.

2.4.2 *If any investigation undertaken pursuant to condition 2.3.2 identifies an exceedance of Environmental Quality Standard, the Licensee must ensure management action is taken to:*

(a) identify and implement actions to restore the parameter to below the Environmental Quality Guideline specified in Table 2.3.1; and

(b) Investigate the potential ongoing impacts to the environment.

10. Table 3.2.1 of the licence is amended by the deletion of the text shown in strikethrough below and addition of the red text shown in underline below:

Table 3.2.1: Monitoring of emissions to land			
Emission point reference	***Parameter***	***Units***	***Frequency***
L1- L2 ~~L3~~	*Volumetric flow rate*	*m^3/day*	*Continuous*
L4	*Total Recoverable Hydrocarbons*	*mg/L*	*Monthly when discharging*

11. Table 3.3.1 of the licence is amended by the deletion of the text shown in strikethrough below:

Table 3.3.1: Monitoring of inputs and outputs					
Monitoring point reference and location	***Process description***	***Parameter***	***Units***	***Averaging period***	***Frequency***
Construction Village STP Train 1 – M1	*Discharge from STP to Off-Spec Tank or CV Effluent Sump*	*Volumetric flow rate*	*m^3/day*	*Monthly*	*Continuous*
		Biochemical Oxygen Demand	*mg/L*	*Spot sample*	*Quarterly*
Construction Village STP Train 2 – M2		*Total Suspended Solids*	*mg/L*		
		pH[1]	*pH units*		
		Total Nitrogen	*mg/L*		
Construction Village STP Train 3 – M3		*Total Phosphorus*	*mg/L*		
Construction Village STP Train 4 – M4		*E.coli*	*cfu/100mL*		
~~On-Spec Tank – M5~~	*~~Treated wastewater used for dust suppression~~*	*~~Volumetric flow rate~~*	*~~m^3/day~~*	*~~Monthly~~*	*~~Continuous~~*
600 EP STP – M6	*Discharge from STP to irrigation fields or CV Effluent Sump*	*Volumetric flow rate*	*m^3/day*	*Monthly*	*Continuous*
		Biochemical Oxygen Demand	*mg/L*	*Spot sample*	*Quarterly*
		Total Suspended Solids	*mg/L*		
		pH[1]	*pH units*		
		Total Nitrogen	*mg/L*		
		Total Phosphorus	*mg/L*		
		E.coli	*cfu/100mL*		
Construction Village Expansion Camp STP – M7	*Discharge from STP to irrigation fields or CV Effluent Sump*	*Volumetric flow rate*	*m^3/day*	*Monthly*	*Continuous*
		Biochemical Oxygen Demand	*mg/L*	*Spot sample*	*Quarterly*
		Total Suspended Solids	*mg/L*		
		pH[1]	*pH units*		
		Total Nitrogen	*mg/L*		
		Total Phosphorus	*mg/L*		
		E.coli	*cfu/100mL*		
~~Fly Camp STP –~~	*~~Discharge~~*	*~~Volumetric flow rate~~*	*~~m^3/day~~*	*~~Monthly~~*	*~~Continuous~~*

Table 3.3.1: Monitoring of inputs and outputs					
Monitoring point reference and location	**Process description**	**Parameter**	**Units**	**Averaging period**	**Frequency**
~~M8~~	~~from STP to irrigation fields or CV Effluent Sump~~	~~Biochemical Oxygen Demand~~	~~mg/L~~	~~Spot sample~~	~~Quarterly (Weekly during commissioning)~~
		~~Total Suspended Solids~~	~~mg/L~~		
		~~pH[1]~~	~~pH units~~		
		~~Total Nitrogen~~	~~mg/L~~		
		~~Total Phosphorus~~	~~mg/L~~		
		~~E.coli~~	~~cfu/100mL~~		

Note 1: In-field non-NATA accredited analysis permitted.

12. The licence is amended by the insertion of the following Condition 3.3.2:

3.3.2 The Licensee must undertake the monitoring in Table 3.3.2 according to the specifications in that table.

Table 3.3.2: Monitoring of emissions to Marine Waters and Land					
Emission point reference	**Monitoring point reference and location**	**Parameter[1]**	**Units[2]**	**Averaging period**	**Frequency**
L5 - TMO discharge	*EQ1 – Discharge line from equalization tank to TMO*	*Flow rate[3]*	*m^3/hr*	*Daily*	*Continuous*
		Chlorine[3]	*mg/L*	*Replicate Spot sample*	*Monthly*
		Ammonia	*mg/L*		
		Aluminum	*mg/L*		
		Cadmium	*mg/L*		
		Chromium (III)	*mg/L*		
		Chromium (VI)	*mg/L*		
		Copper	*mg/L*		
		Lead	*mg/L*		
		Mercury	*mg/L*		
		Nickel	*mg/L*		
		Silver	*mg/L*		
		Vanadium	*mg/L*		
		Zinc	*mg/L*		
		Total Recoverable Hydrocarbons (Oil and Grease)	*mg/L*		
		Total dissolved solids	*mg/L*		
		Total Nitrogen	*mg/L*		
		Nitrate + Nitrite	*mg/L*		
		Total Phosphorous	*mg/L*		
		Filterable Reactive Phosphorous	*mg/L*		
		Biochemical Oxygen Demand	*mg/L*		
		Faecal coliforms	*organisms/ 100ml*		
		Enterococci	*organisms/ 100ml*		

Note 1: Metals analysis is to specify dissolved metal concentrations;
2: Limit of reporting to be less than the respective EQGs specified in Table 2.3.1; and
3: Non-NATA accredited analysis permitted

13. Table 4.2.1 of the licence is amended by the deletion of text shown in strikethrough below and the insertion of the red text shown in underline below:

Table 4.2.1: Annual Environmental Report		
Condition or Table	***Parameter***	***Format or Form[1]***
-	*Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the year and any action taken*	*None specified*
~~*2.2.1*~~	~~*Operating hours per month*~~ ~~*Type of fuel used and corresponding quantity in litres per month*~~	~~*None specified*~~
Table 2.3~~2~~.2	*Loading rates for total nitrogen and total phosphorus*	*None specified*
2.3.2 and 2.3.3	*Summary of investigation and management actions taken*	*None specified*
Table 3.2.1	*Monitoring of emissions to land*	*None specified*
~~*Table 3.3.1*~~	~~*Monitoring of inputs and outputs*~~	~~*None specified*~~
Table 3.3.2	*Monitoring of emissions to marine waters and land*	*None specified*
~~*Table 3.4.1*~~	~~*Ambient air quality monitoring*~~	~~*Tabulated data and time series graphs*~~
Tables 1.3.1, 2.2.2, 2.3.1, 3.4.1 and 3.4.2	*Limit, Environmental Quality Guideline, and target exceedances*	*None specified*
~~*3.5.1*~~	~~*Meteorological monitoring*~~	~~*Tabulated data and time series graphs*~~
4.1.3	*Compliance*	*Annual Audit Compliance Report (AACR)*
4.1.4	*Complaints summary*	*None specified*
-	*Copies of any reports on Whole of Effluent Toxicity Testing carried out in accordance with Condition 13-12ia of Ministerial Statement 873.*	*None specified*

Note 1: Forms are in Schedule 2.

14. Table 4.2.2 of the licence is amended by the deletion of text shown in strikethrough below:

Table 4.2.2: Non-annual reporting requirements					
Condition or table (if relevant)	***Parameter***	***Averaging period***	***Reporting period***	***Reporting date (after end of the reporting period)***	***Format or form***
-	*Copies of original monitoring reports submitted to the Licensee by third parties*	*Not Applicable*	*Not Applicable*	*Within 14 days of the CEOs request*	*As received by the Licensee from third parties*
~~*2.2.1*~~	~~*Maintenance records for power generating equipment used on the Premises outlining conformance with manufacturer's environmental emission specifications and/or any internal management systems*~~	~~*Not applicable*~~	~~*Not applicable*~~	~~*Within 14 days of the CEOs request*~~	~~*None specified*~~
~~*3.3.1*~~	~~*Results of weekly monitoring of the Fly Camp STP*~~	~~*Not applicable*~~	~~*Not applicable*~~	~~*Within 1 month of end of commissioning*~~	~~*None specified*~~

15. Table 4.3.1 of the licence is amended by the deletion of text shown in strikethrough below:

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	***Parameter***	***Notification requirement[1]***	***Format or form[1]***
1.3.1 and 2.1.1	*Breach of any limit specified in the Licence*	*Part A: As soon as practicable but no later than 5pm of the next usual working day.*	*N1*
~~*1.3.7*~~	~~*Commencement of commissioning of the Fly Camp STP*~~	~~*7 days prior to start*~~	~~*None specified*~~
	~~*Completion of commissioning of the Fly Camp STP*~~	~~*7 days after completion*~~	~~*None specified*~~
3.1.4	*Calibration report*	*As soon as practicable.*	*None specified*

Note 1: Forms are in Schedule 2.

16. The licence is amended by the deletion of Conditions 1.3.4, 1.3.7, 2.2.1, 3.4.1, 3.4.2, 3.4.3, and 3.5.1 as follows:

1.3.4 The Licensee shall only discharge treated wastewater for the purpose of dust suppression at construction activities associated with the Wheatstone Project to the area depicted in red on the map shown in Schedule 1.

1.3.7 The Licensee shall ensure commissioning of the Fly Camp STP does not exceed 3 months.

2.2 Point source emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the Map of emission points and monitoring locations in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to air			
Emission point reference and location on Map of emission points and monitoring locations	***Emission Point and source***	***Emission point height (m)***	***Source, including any abatement***
A1	*Construction Village Diesel Generator 1*	*2.9*	*Caterpillar 3516B Diesel generator*
A2	*Construction Village Diesel Generator 2*	*2.9*	*Caterpillar 3516B Diesel generator*
A3	*Construction Village Diesel Generator 3*	*2.9*	*Caterpillar 3516B Diesel generator*
A4	*Construction Village Diesel Generator 4*	*2.9*	*Caterpillar 3516B Diesel generator*
A5	*Construction Village Diesel Generator 5*	*2.9*	*Caterpillar 3516B Diesel generator*
A6	*Construction Village Diesel Generator 6*	*2.9*	*Caterpillar 3516B Diesel generator*
A7	*Construction Village Diesel Generator 7*	*2.9*	*Caterpillar 3516B Diesel generator*
A8	*Construction Village Diesel Generator 8*	*2.9*	*Caterpillar 3516B Diesel generator*

Table 2.2.1: Emission points to air			
Emission point reference and location on Map of emission points and monitoring locations	**Emission Point and source**	**Emission point height (m)**	**Source, including any abatement**
A9	*Construction Village Diesel Generator 9*	*2.9*	*Caterpillar 3516B Diesel generator*
A10	*Construction Village Diesel Generator 10*	*2.9*	*Caterpillar 3516B Diesel generator*
A11	*Construction Village Diesel Generator 11*	*2.9*	*Caterpillar 3516B Diesel generator*
A12	*Construction Village Diesel Generator 12*	*2.9*	*Caterpillar 3516B Diesel generator*
A13	*Construction Village Diesel Generator 13*	*2.9*	*Caterpillar 3516B Diesel generator*

3.4 Ambient environmental quality monitoring

3.4.1 The Licensee shall not cause or allow exceedance of the ambient air emission limit listed in Table 3.4.1.

Table 3.4.1: Ambient air quality monitoring limit					
Monitoring point reference & location	**Parameter**	**Limit**	**Averaging period**	**Frequency**	**Method**
Pioneer Camp & Fly Camp	*Nitrogen dioxide*	*120 ppb*	*1 hour*	*Continuous*	*AS 3580.5.1*

3.4.2 The Licensee shall undertake the monitoring in Table 3.4.2 according to the specifications in that table.

Table 3.4.2: Ambient air quality monitoring					
Monitoring point reference & location on Map of air quality monitoring locations	**Parameter**	**Target**	**Averaging period**	**Frequency**	**Method**
Pioneer Camp & Fly Camp	*Nitrogen dioxide*	*96 ppb*	*1 hour*	*Continuous*	*AS 3580.5.1*

3.4.3 The Licensee shall take the specified management action in the case of an event in Table 3.4.3.

Table 3.4.3: Management actions			
Monitoring point reference & location	**Event action reference**	**Event**	**Management action**
Pioneer Camp & Fly Camp	*EA1*	*The ambient monitoring data indicates an exceedance of the ambient nitrogen dioxide target specified in condition 3.4.2*	*The Licensee shall:* *i. take all practical measures to control nitrogen dioxide emissions from the diesel generator sets specified in condition 2.2.1; and* *ii. immediately reduce operating load of the diesel generator sets on the Premises and ensure that ambient nitrogen dioxide concentration returns below the target specified in condition 3.4.2.* *The Licensee shall investigate the cause of exceedance within 7 usual working days of the event and provide a report to the CEO. The report shall contain a summary of:* *i. The date, time, location and length of exceedance;* *ii. Operating conditions at the site for the 48 hours preceding the exceedance, including fuel consumption and load;* *iii. Any ambient monitoring data conducted by the Licensee for the 7 days preceding the exceedance;* *iv. Any meteorological monitoring data conducted by the Licensee for the 7 days preceding the exceedance;* *v. Any actions that the Licensee has taken towards preventing, controlling or abating pollution or environmental harm; and* *vi. Any other factors relevant to the exceedance of the target.*

3.5 Meteorological monitoring

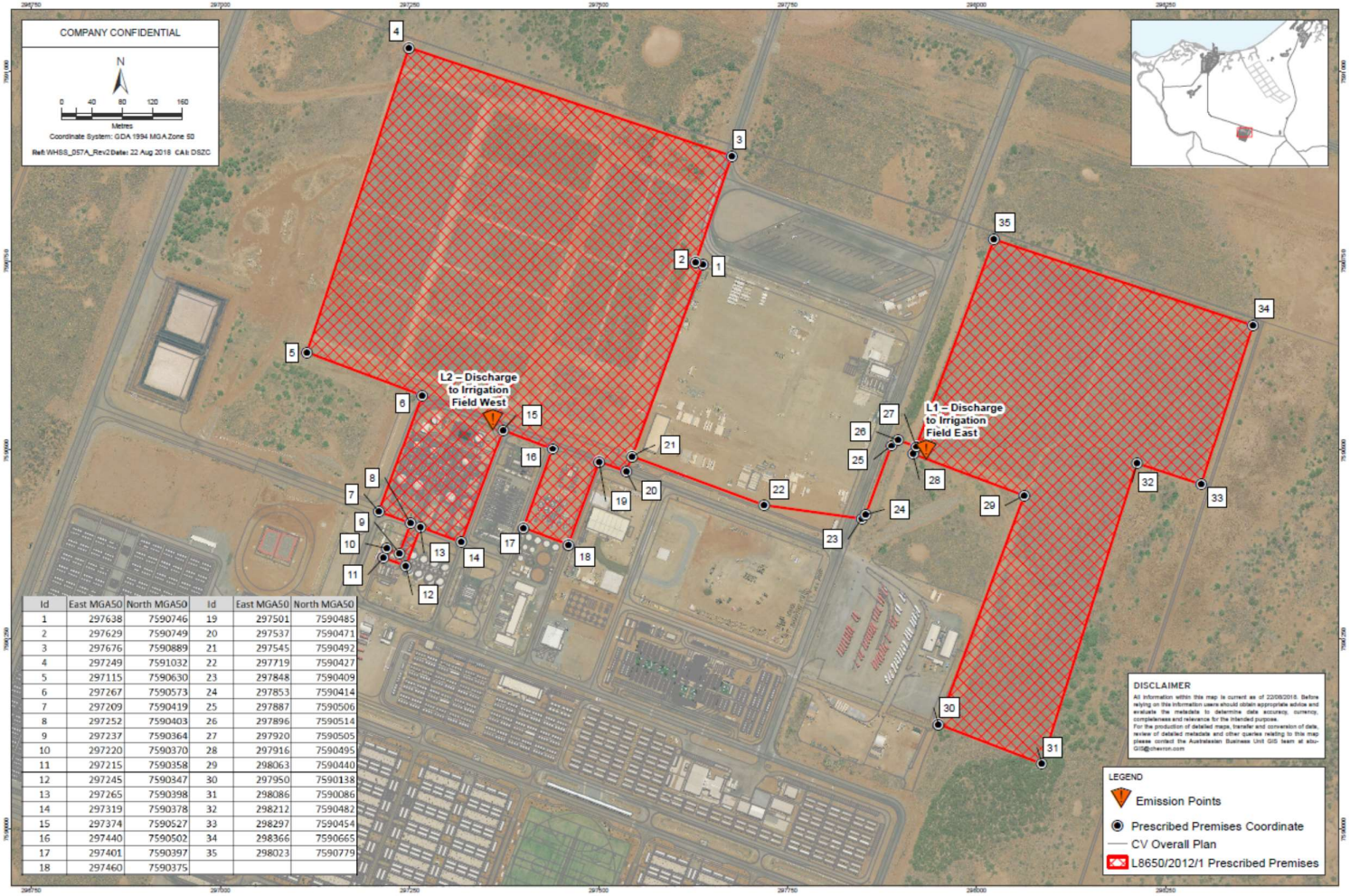
3.5.1 The Licensee shall undertake the meteorological monitoring in Table 3.5.1 according to the specifications in that table.

Table 3.5.1: Meteorological monitoring			
Monitoring station & location on Map of air quality monitoring locations	**Parameter**	**Units**	**Method**
Pioneer Camp & Fly Camp	*Wind speed*	*m/s*	*None specified*
	Wind direction	*Degrees*	
	Air temperature	*°C*	

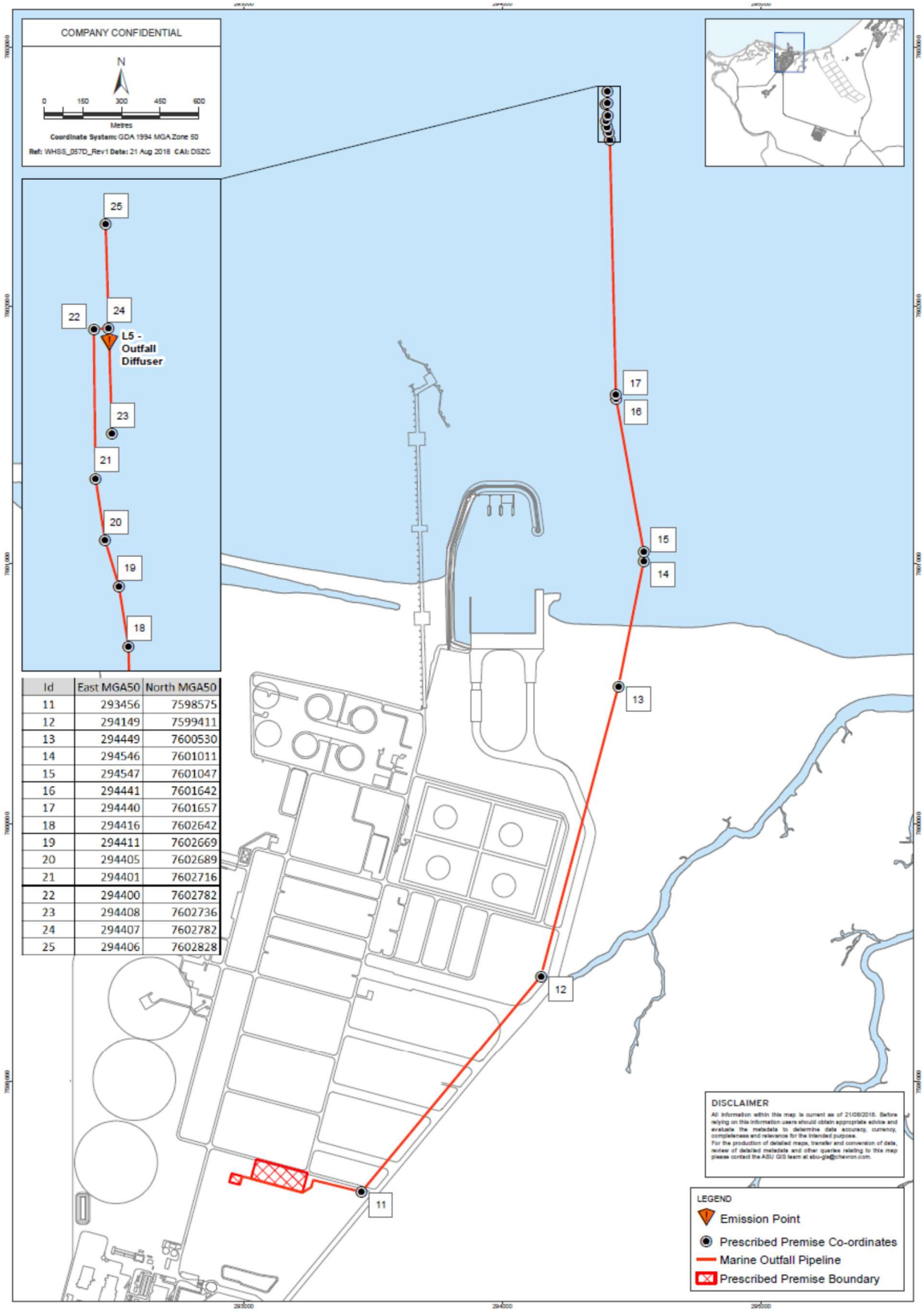
17. The *Premises maps* in Schedule 1 of the licence are replaced with the *Premises maps* attached to this Amendment Notice.

Premises maps

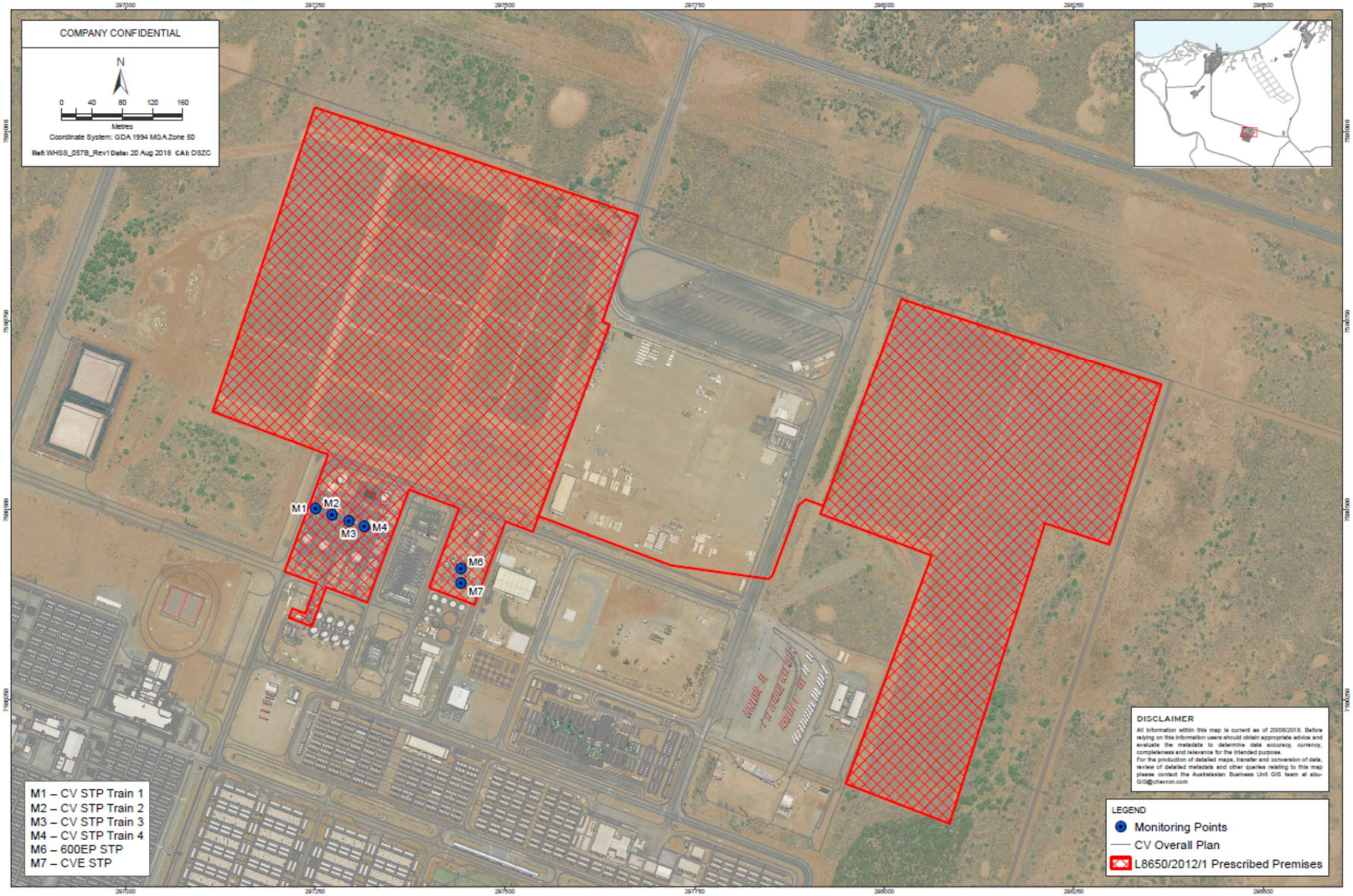
The Premises are shown in the maps below. The red line depicts the Premises boundary.



Id	East MGA50	North MGA50	Id	East MGA50	North MGA50
1	297638	7590746	19	297501	7590485
2	297629	7590749	20	297537	7590471
3	297676	7590889	21	297545	7590492
4	297249	7591032	22	297719	7590427
5	297115	7590630	23	297848	7590409
6	297267	7590573	24	297853	7590414
7	297209	7590419	25	297887	7590506
8	297252	7590403	26	297896	7590514
9	297237	7590364	27	297920	7590505
10	297220	7590370	28	297916	7590495
11	297215	7590358	29	298063	7590440
12	297245	7590347	30	297950	7590138
13	297265	7590398	31	298086	7590086
14	297319	7590378	32	298212	7590482
15	297374	7590527	33	298297	7590454
16	297440	7590502	34	298366	7590665
17	297401	7590397	35	298023	7590779
18	297460	7590375			



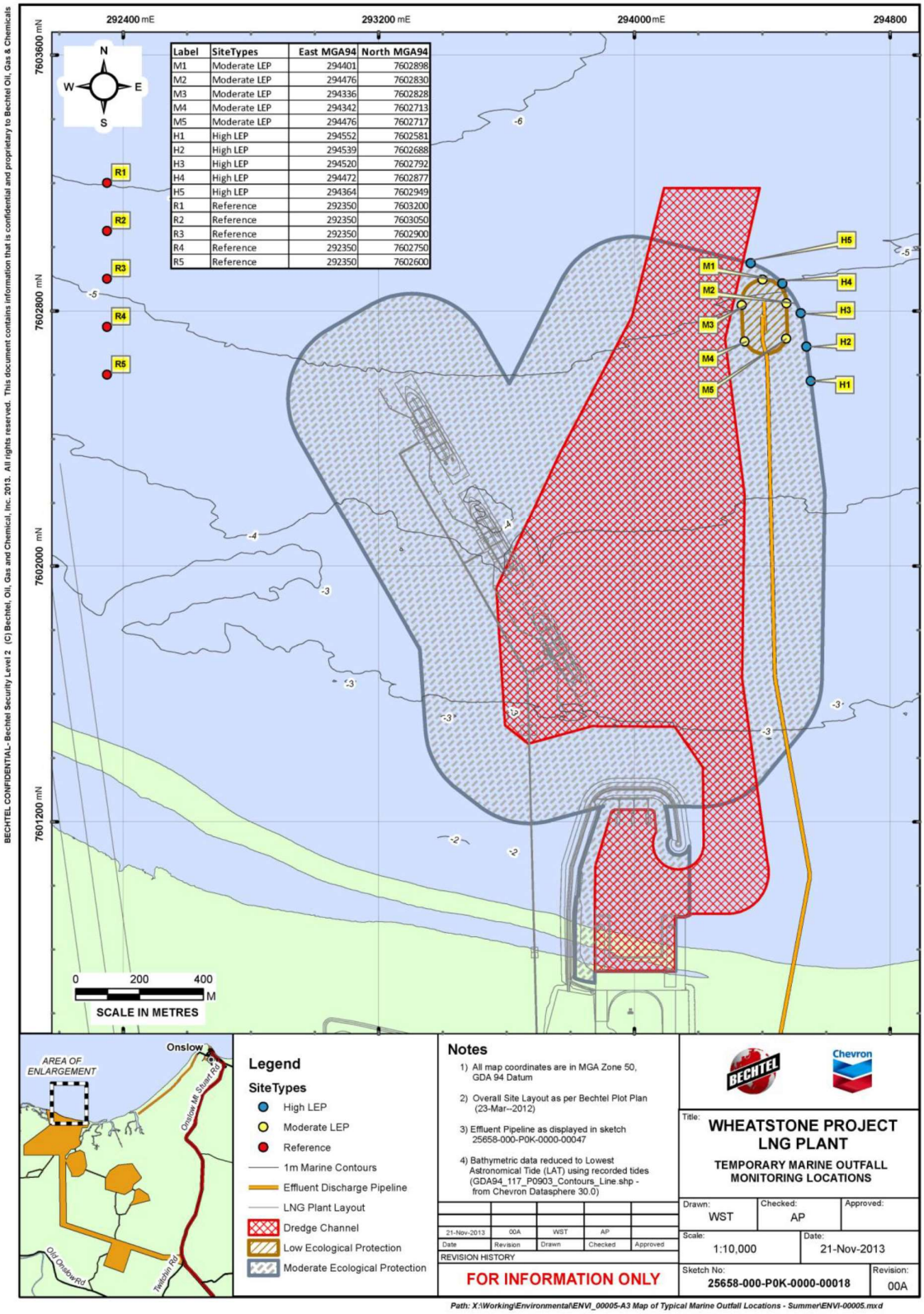
Id	East MGA50	North MGA50
11	293456	7598575
12	294149	7599411
13	294449	7600530
14	294546	7601011
15	294547	7601047
16	294441	7601642
17	294440	7601657
18	294416	7602642
19	294411	7602669
20	294405	7602689
21	294401	7602716
22	294400	7602782
23	294408	7602736
24	294407	7602782
25	294406	7602828


COMPANY CONFIDENTIAL
N
0 40 80 120 160
Metres
Coordinate System: GDA 1994 MGA Zone 50
Ref: WHSS_057B_Rev1 Date: 20 Aug 2018 CAb DSZC
M1
M2
M3
M4
M6
M7
M1 – CV STP Train 1
M2 – CV STP Train 2
M3 – CV STP Train 3
M4 – CV STP Train 4
M6 – 600EP STP
M7 – CVE STP
DISCLAIMER
LEGEND
Monitoring Points
CV Overall Plan
L8650/2012/1 Prescribed Premises

Id	East MGA50	North MGA50
1	293248	7598649
2	293049	7598702
3	293029	7598627
4	292954	7598647
5	292945	7598614
6	292985	7598603
7	292994	7598636
8	293227	7598573
9	293261	7598593
10	293269	7598622

Appendix 1: Location Plan

(from Figure 2.2 of the OEMMP)



Label	SiteTypes	East MGA94	North MGA94
M1	Moderate LEP	294401	7602898
M2	Moderate LEP	294476	7602830
M3	Moderate LEP	294336	7602828
M4	Moderate LEP	294342	7602713
M5	Moderate LEP	294476	7602717
H1	High LEP	294552	7602581
H2	High LEP	294539	7602688
H3	High LEP	294520	7602792
H4	High LEP	294472	7602877
H5	High LEP	294364	7602949
R1	Reference	292350	7603200
R2	Reference	292350	7603050
R3	Reference	292350	7602900
R4	Reference	292350	7602750
R5	Reference	292350	7602600

Appendix 2: Condition 13 of MS873

13 Marine Outfalls

Environmental Quality Management Framework and location of waste water discharges

13-1 Prior to construction of any infrastructure for this Proposal related to waste water discharge, and prior to application for any works approval from DEC for any discharge, unless otherwise approved by the CEO, the Proponent must prepare a map to be approved by the CEO that spatially defines the areas where each environmental quality objective and level of ecological protection is to be achieved in the marine environment surrounding this Proposal. The map shall be provided in a GIS compatible format specified by the CEO.

13-2 The Proponent must locate the co-mingled on-shore brine and waste water outfalls so that the associated Low Ecological Protection Area is entirely contained within the Moderate Ecological Protection Area of the port.

13-3 The Moderate Ecological Protection Area for the port is defined as the area contained within 250 metres of the shipping berths and ship turning basin, and the area enclosed by the Marine Offloading Facility breakwaters. Outside of the Moderate Ecological Protection Area a high level of ecological protection shall be maintained.

13-4 The Low Ecological Protection Area for the co-mingled on-shore brine and waste water outfalls must not extend beyond 70 metres from all points of the diffuser structure.

13-5 The Proponent must locate the produced water outfall beyond the 20 metre isobath at a location approved by the CEO.

13-6 The Proponent shall incorporate waste treatment strategies and design the produced water outfall to minimise the size of any associated Low Ecological Protection Area and to ensure it does not extend beyond 70 metres from all points of the diffuser. Outside the Low Ecological Protection Area a high level of ecological protection shall be maintained.

13-7 The Proponent shall ensure that all waste and produced water discharges are managed to achieve the environmental quality objectives and levels of ecological protection as identified through condition 13-1 and described in Schedule 2.

Offshore Accommodation Vessel Marine Discharge Infrastructure

13-8 The Proponent shall not combine the brine discharge from the onboard desalination plant with the treated waste water discharge.

13-9 The Proponent shall incorporate waste treatment strategies and design the discharge outlets for treated waste water, brine and generator cooling water so that the size of any associated Low Ecological Protection Area is minimised and does not extend beyond 70 metres from the Offshore Accommodation Vessel. Outside the Low Ecological Protection Area a high level of ecological protection shall be maintained.

13-10 The Proponent shall ensure that all discharges from the Offshore Accommodation Vessel are managed to achieve the environmental quality objectives and levels of ecological protection as described in Schedule 2.

Quality of all Waste Water Discharges from the Onshore Facilities

13-11 Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall submit a report to the DEC that:

i. spatially maps the areas where each environmental quality objective and level of ecological protection is to be achieved;

ii. identifies the environmental quality criteria, for constituents of the discharge considered relevant by the DEC, that should be achieved to maintain the environmental quality objectives and levels of ecological protection established through condition 13-1;

iii. predicts the toxicity of the final discharge under typical conditions;

iv. predicts the number of dilutions necessary to meet the required environmental quality objectives and level of ecological protection. For example, a moderate level of protection at the boundary of a Low and Moderate Ecological Protection Area and a high level of protection at the boundary of a Moderate and High Ecological Protection Area, or to meet a high level of protection at the boundary of a Low and High Ecological Protection Area (predictions are based on achieving environmental quality criteria and effluent toxicity); and

v. presents contingency options for additional treatment or extending the diffuser to achieve greater dilutions if required.

13-12 Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall develop an Effluent Quality Validation and Reporting Plan in consultation with the DEC that addresses the following issues:

i. Whole Effluent Toxicity Testing program for determining:

   a. the actual toxicity of any discharge post commissioning and post operation of the outfall and following any significant change in effluent composition; and

   b. the number of dilutions required to achieve each relevant level of ecological protection,

   testing is to be undertaken on a minimum of five locally relevant species from four different taxonomic groups using the recommended protocols from ANZECC and ARMCANZ (2000)[1];

ii. characterisation of any waste water discharge under typical operational conditions and after any significant changes in effluent composition;

iii. a revised set of environmental quality criteria based on the contaminants of concern identified from condition 13-12(ii);

iv. given the results from conditions 13-12(i) (ii) and (iii), the number of dilutions required to achieve the environmental quality objectives and levels of ecological protection identified in condition 13-1 and described in Schedule 2; and

v. reporting to the DEC within 6 months of commissioning of a discharge or within 6 months of any significant change in composition of a discharge, including any management actions necessary to ensure ongoing compliance with the environmental quality objectives and levels of ecological protection established through condition 13-1 and described in Schedule 2.

Quality of any Offshore Accommodation Vessel Discharges

13-13 Prior to application for a works approval from the DEC for any discharges from the Offshore Accommodation Vessel, the Proponent shall submit a report to the DEC that:

i. for those water quality indicators considered relevant to the discharges, identifies the environmental quality criteria that should be achieved to maintain the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9 and described in Schedule 2;

ii. models the behaviour of the different discharges from the offshore accommodation vessel and confirms that the environmental quality objectives will be achieved and that a high level of ecological protection will be achieved at the edge of the low ecological protection area;

iii. predicts the impact of the discharges under typical conditions;

iv. predicts the volumes and rates of the different discharges;

v. predicts the number of dilutions required to achieve all of the environmental quality objectives, including a high level of ecological protection at the boundary of the Low and High Ecological Protection Areas (based on achieving the environmental quality criteria); and

vi. presents contingency options for additional management actions or treatment options to achieve the required levels of ecological protection if required.

13-14 Prior to submitting an application for a works approval to the DEC for the discharges from any Offshore Accommodation Vessels, the Proponent shall develop a Discharge Quality Validation and Reporting Plan to the satisfaction of the DEC that addresses the following issues:

i. Characterisation of the different discharge streams under typical operational conditions;

ii. A revised set of environmental quality criteria based on the contaminants of concern identified from condition 13-14(i);

iii. Given the results from condition 13-4(i) and (ii), confirmation that the environmental quality objectives and levels of ecological protection identified in conditions 13-1 and 13-9, and as outlined in Schedule 2, will be achieved; and

iv. Reporting to the DEC within 6 months of commissioning, including any additional treatment options or management actions necessary to ensure ongoing compliance with the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9 and described in Schedule 2.

Reporting

13-15 In the event that the monitoring required by conditions 13-12 and 13-14 or through the discharge licences issued under Part V of the *Environmental Protection Act 1986* indicates that the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9, and described in Schedule 2, are not being met, or are not likely to be met, the Proponent shall report the findings to the CEO and the DEC as soon as practicable, but within five working days, along with a description of the management actions to be taken to meet the required level of environmental quality.

Discharge of Hydrostatic Test Water

13-16 Prior to the discharge of hydrostatic test fluids to marine waters, unless otherwise approved by the CEO, the Proponent is to develop, to the approval of the CEO, a Hydrostatic Test Fluids Discharge Management Plan that includes ecotoxicity testing of the hydrostatic test fluid, an assessment of likely impacts of the potential discharge against the environmental quality management framework outlined in Schedule 2 and management actions that will be implemented to ensure that the environmental quality objectives and levels of ecological protection are maintained, including monitoring and reporting frameworks.

13-17 The Proponent must implement the Hydrostatic Test Fluids Discharge Management Plan required under condition 13-16 once approved by the CEO.

Appendix 3: Key Documents

	Document title	In text ref	Availability
1	ANZECC and ARMCANZ 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 1 The Guidelines*	ANZECC and ARMCANZ (2000) guidelines	accessed at www.agriculture.gov.au
2	BMT Oceanica, August 2016. *Wheatstone Temporary Marine Outfall – Operations Environmental Monitoring and Management Plan, Rev 1*	OEMMP	DWER Records
3	BMT Oceanica, September 2015. *Combined Discharge Effluent Quality Validation Report (EQVR) RevE*	EQVR	DWER Records
4	Chevron, February 2016. *Construction Onshore Facilities Wastewater Discharge Plan (Rev 4)*	Construction Onshore Facilities Wastewater Discharge Plan	DWER Records
5	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
6	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	DER 2015b	
7	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	DER 2016b	
8	DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	DER 2016c	
9	EPA 2017. *Environmental Quality Criteria Reference Document for Cockburn Sound*	Environmental Quality Criteria Reference Document for Cockburn Sound	accessed at www.epa.wa.gov.au/
10	Licence Amendment Application and Supporting Documentation (including consultation comments from Bechtel)	Amendment Application	DWER Records
11	Licence: L8650/2012/1 Bechtel (Western Australia) Pty Ltd	L8650/2012/1	accessed at www.dwer.wa.gov.au
12	L8650/2012/1 - Amendment Notice 1	Amendment Notice 1	
13	Ministerial Statement 873	MS 873	accessed at www.epa.wa.gov.au/
14	OEPA Advice, March 2016	OEPA Advice	DWER Records
15	Works Approval: W5439/2013/1 Bechtel (Western Australia) Pty Ltd	W5439/2013/1	accessed at www.dwer.wa.gov.au

Appendix 4: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 16 October 2017 for review and comment. The Licence Holder responded on 1 November 2018. The following comments were received on the draft Amendment Notice.

Section/Condition	Summary of Licence Holder comment	DWER response
"Amendment description"	This section describes the facilities, but does not consider the long term fuel farm. Consider including this facility in the description.	Noted and text updated.
"Amendment description"	The Licence Holder advised that the number of power generators onsite has reduced again from five to four taking the power generating capacity from 8 MW to 6.4 MW.	Relevant text within the Amendment Notice has been updated to reflect this change.
"Criteria for assessment"	The dot point states the 'The offshore stressor targets (e.g., nutrients) were based on the 80th/95th percentile of preconstruction baseline approach from ANZECC & ARMCANZ (2000)' with reference made to the OEMMP EQCs. This is no longer the case as the triggers for nutrients have been derived as described further on page 13, i.e. based on the mean loading rates measured during the validation commissioning period. Suggest relevant sections are aligned/reworded to avoid confusion.	Noted and updated.
Table 7 – Footnote 3	States that 'pathogens to be measured in tank...'. Suggest amending this to state 'pathogens to be measured at EQ1'.	Note and updated.
Table 8	Table refers to 'Operational monitoring' in the heading and footnote. Suggest amending this to state 'Post-commissioning Monitoring' as "operation" cannot occur without a licence to operate.	Note and updated.

Section/Condition	Summary of Licence Holder comment	DWER response
"Licence holder controls"	In alignment with the *Environmental Quality Criteria Reference Document for Cockburn Sound - A supporting document to the State Environmental (Cockburn Sound) Policy 2015. Environmental Protection Authority. Perth, Western Australia, April 2017* an option has now been included in the OEMMP to bypass the EQS assessment following an EQG exceedance and go straight to implementing management actions following agreement with DWER on a case by case basis. This process should also be included in the relevant sections of the Amendment Notice/Licence	The Delegated Officer considers this approach to be reasonable as it allows prompt response to potential environmental impact. Implementation of this approach will be determined on a case by case basis in consultation with DWER and therefore no changes to the conditions are proposed.
"Decision – Temporary Marine Outfall (TMO)"	The wording in the sixth paragraph states that 'Bechtel provided operational monitoring data…'. Suggest changing to 'post-commissioning' data as 'operation' and provide 'operational monitoring data' cannot occur without a licence to operate.	Noted and updated
Condition 1.2.2	The Licence Holder requested the inclusion of definitions for 'Environmental Quality Guideline' and 'Environment Quality Standard'.	Environmental Quality Guidelines are specified in Table 2.3.1 and therefore further definition is not required. Condition 2.3.3 has been amended to include a reference to Table 2.3.1 for clarity. A definition for Environmental Quality Standards has not been included in the licence as these are well defined in the OEMMP which is referred to in the assessment report.

Section/Condition	Summary of Licence Holder comment	DWER response
Condition 2.3.1	As per correspondence provided to DWER on 9th August 2018, calculating the mean for nutrient trigger assessment is acceptable however when calculating a mean over a rolling 12 month period a spike has the potential to trigger EQS investigations for the following 12 months. It is requested that the removal of the wording 'using a minimum of 12 samples' to allow the removal of an investigated spike. If this is not acceptable it is requested that the concept of a rolling mean be removed and replaced by either the use a monthly spot sample (mean load) or annual mean load for trigger assessment.	As documented in the Amendment Notice, the Delegated Officer has considered previous comments relating to the potential for "spikes" in nutrients concentrations to contribute to an exceedance of the EQS as follows: *For nutrients, the test is again a chronic test (average load over 12 months) and the potential environmental effects tested by the EQS are cumulative. It is not appropriate to remove the last EQG exceeding value. If the EQG is exceeded, but the EQS is not, there should be an on-going management action to check on sediment quality. If the EQS is triggered, then actions should be taken to reduce nutrient loads, and the EQS and EQG continue to be tested until met.* However, the Delegated Officer considers that in instances where the EQG is exceeded due to a previous spike, but the EQS is not, there is potential to reduce the frequency of sediment quality monitoring until the EQG is met. This alternative procedure will be implemented on discussion and agreement with DWER. Based on this no change to the licence condition is proposed. The Delegated Officer considers that where spikes are attributed to errors (e.g. sampling or laboratory errors that do not result in environmental impact), these may be removed from the 12 month period. These instances can be discussed and requirements determined with DWER on a case by case basis outside of the Licence.

Section/Condition	Summary of Licence Holder comment	DWER response
Table 3.3.1	Include footnote 1 regarding the permission of non-NATA accredited analysis for pH	Amended.
Table 3.3.2	The Licence Holder requested the deletion of the last row referring to dust suppression as this is no longer occurring onsite and consistent with other amendments.	Amended.
Condition 1.3.4	As a result of the above, the Licence Holder requested that condition 1.3.4 be amended to 'the Licensee shall ensure that the irrigation of treated wastewater is limited to the area depicted in red on the map shown in Schedule 1.' The purpose of the amendment was to make it clear that irrigation of treated wastewater is not for the purpose of dust suppression at construction activities.	Condition 1.3.4 has been deleted from the Licence. The emission points for wastewater to be discharge via the irrigation fields are specified in Table 2.2.2 (previously Table 2.3.2).
Amendment # 15 (Page 25)	This section incorrectly refers to the deletion of condition 2.1.1, instead of condition 2.2.1. Please change accordingly.	Amended.

Attachment 1 – Consolidated Licence L8650/2012/1