

***Cleanaway Refiners Rutherford Annual Environmental Management Report 2019***

***Date:*** December 2019  
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***Version:*** Final  
***Approved by:*** Orhan Cambaz and Blake Senior

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## 1 Title Block

TABLE 1: ANNUAL REVIEW TITLE BLOCK

<b>Name of operation</b>	Resource Recovery and Recycling Facility, 41 Kyle Street, Rutherford 2320 NSW
<b>Name of operator</b>	Cleanaway Refiners
<b>Development consent</b>	05_0037
<b>Name of holder of development consent</b>	Cleanaway Pty Ltd
<b>Annual Review start date</b>	29 September 2018
<b>Annual review end date</b>	28 September 2019

I Blake Senior, certify that this audit report is a true and accurate record of the compliance status of Resource Recovery and Recycling Facility for the 2019 reporting period and that I am authorised to make this statement on behalf of Cleanaway.

<b>Name of authorised reporting officer</b>	Blake Senior
<b>Title of authorised reporting officer</b>	General Manager - Hydrocarbons
<b>Signature of authorised reporting officer</b>	
<b>Date</b>	18/12/19.

## 2 Statement of Compliance

This section details compliance with the conditions of approval and any other licence and approvals for the project.

TABLE 2: STATEMENT OF COMPLIANCE

Were all conditions of the relevant approval conditions complied with?	
Development consent 05_0037	Yes
Environmental Protection Licence (EPL) 12555	Yes

No non-compliance associated with Development Consent 05-037 and Environmental Protection Licence 12555 was reported during the reporting period.

Compliance tables relating to the current operation phase of the project are provided in Appendix A.

Compliance tables relevant to previous phases of the project (construction and pre operations), and considered completed, can be found in Appendix B for reference.

### 3 Introduction

Cleanaway Refiners operates an oil refinery at 41 Kyle Street, Rutherford, New South Wales. The refinery processes up to 40,000 tonnes per annum (tpa) of waste oil. This waste oil is refined via hydrogenation into base oil for use in lube oil blending and industrial processes (Refer Figure 1 and Figure 2).

The refinery has been operating since May 2007. During this time Cleanaway Refiners has been progressively improving operations to ensure best practice.

Operation of the refinery is subject to the conditions of the Project Approval (05\_0037), as modified, and Environmental Protection Licence 12555.

This Annual Environmental Management Report (AEMR) has been prepared for the 12-month reporting period of 29 September 2018 to 28 September 2019 (herein referred to as the reporting period).

This Annual Review has been prepared in accordance with the following:

- \* Schedule 2, Condition 5.2 of Project Approval (05\_0037);
- \* NSW Government Guideline, Annual Review Guideline (October, 2015); and
- \* Environmental Protection Licence 12555.

Copies of this AEMR will be provided to the New South Wales Environmental Protection Authority (NSW EPA), Maitland Council and the Department of Planning and Environment. A copy of the AEMR will also be placed on the Cleanaway Public Web Site: <http://www.Cleanaway.com.au>

Note on 1st February 2016 Transpacific Refiners changed its name to Cleanaway Refiners.

**FIGURE 1: REGIONAL CONTEXT**





FIGURE 2: RUTHERFORD REFINERY SITE LAYOUT



## 4 Approvals

Operations at Rutherford are regulated by Project Approval (05\_0037) and Environmental Protection Licence (EPL) 12555, which are summarised below.

### Project Approval: 05\_0037

The Site was initially granted project approval PA 05\_0037 on 4 July 2006 for the construction and operation of a resource recovery and recycling facility.

Five modifications to PA05\_0037 have been approved to date.

No changes or modifications to PA05\_0037 occurred during the current reporting period.

### Environmental Protection Licence (EPL) 12555

Cleanaway Refiners operates Rutherford hydrogenation plant under EPL 12555, with an anniversary date of 29 September. Monitoring results are reported to the EPA as part of the Rutherford EPL Annual Return and monitoring data is available on the Cleanaway website.

Activities to which the EPL applies are: Petroleum products and fuel production, chemical storage.

No variations to EPL 12555 occurred during the current reporting period.

## 5 Operations summary

A summary of production from the hydrogenation plant and a comparison against the Project Approval limit is provided in Table 3 below.

**TABLE 3: PRODUCTION SUMMARY**

Material	Approved limit (tpa)	Previous reporting period (tpa)	This reporting period (tpa)	Next reporting period (forecast) (tpa)
Product: waste lubricant oils	40,000	25,759.208	31,843.347	33,000

### Next reporting period

No significant changes to the plant or production are anticipated during the next reporting period.

## 6 Actions required from previous Annual Review

A summary of the actions required as an outcome of the previous Annual Review are provided in Table 4.



**TABLE 4: ACTIONS FROM THE PREVIOUS ANNUAL REVIEW**

Actions required from previous Annual Review	Requested by	Action taken by the operator	Where discussed in the Annual Review
<ul style="list-style-type: none"> <li>Future AEMR's to include current and previous years' groundwater and air quality results (for all monitoring points and analytes) for trend analysis</li> </ul>	<ul style="list-style-type: none"> <li>NSW Department of Planning and Environment (now Department of Planning Infrastructure and Environment, DPIE)</li> </ul>	<ul style="list-style-type: none"> <li>Groundwater and air quality results trend analysis has been carried out and included in the AEMR</li> </ul>	<ul style="list-style-type: none"> <li>Air Quality – Section 7.2 and Appendix C</li> <li>Groundwater – Section 7.3 and Appendix D</li> </ul>
<ul style="list-style-type: none"> <li>Operation Environmental Management Plan to be reviewed and/or revised in 2019 as necessary, including:               <ul style="list-style-type: none"> <li>Air Quality Management Plan; and</li> <li>Groundwater Management Plan.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Included as a proposed activity in the 2018 AEMR</li> </ul>	<ul style="list-style-type: none"> <li>OEMP, AQMP and GWMP updated and provided to DPIE, Council and the EPA for review and approval</li> </ul>	<ul style="list-style-type: none"> <li>Section 9 and Appendix E</li> </ul>

## 7 Results of Environmental Monitoring

### 7.1 Meteorology

In accordance with Schedule 3, Condition 2.6 of PA 05\_0037, and Condition P1.1 of EPL 12555, Cleanaway continued to operate the meteorological station throughout the reporting period. The meteorological station is located on the rooftop close to the southwest corner of the control room.

### 7.2 Air quality

Cleanaway operates in accordance with the EPL12555 and an approved Air Quality Management Plan (AQMP). Whilst the AQMP is not available on the Cleanaway website, a summary of the AQMP is provided within the OEMP. The AQMP describes air quality management and monitoring requirements associated with the hydrogenation plant.

#### 7.2.1 Emissions criteria

Air quality monitoring locations, pollutant criteria and concentration limits are presented in Table 5.

**TABLE 5: EPL12555 AIR QUALITY MONITORING LOCATIONS AND CRITERIA**

EPA reference	Location	Pollutant	Concentration limit (mg/m <sup>3</sup> )
2	3.0MW boiler stack	VOC	10
		Nitrogen oxides	350
		Solid particles	10

EPA reference	Location	Pollutant	Concentration limit (mg/m <sup>3</sup> )
3	0.2MW boiler stack	VOC	10
		Nitrogen oxides	350
		Solid particles	10
5	Light ends scrubber	VOC	20
19	Fired heaters stack	Solid particles	50
		Hydrogen sulfide	5
		VOC	10
		Nitrogen oxides	350
		Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> )	100
		Sulphur dioxide	1360
20	Hydrogen reformer	VOC	10
		Nitrogen oxides	350
		Solid particles	10

Annual load limits prescribed in EPL 12555 are presented in Table 6.

**TABLE 6: ANNUAL LOAD LIMITS**

Assessable pollutant	Load limit (kg)
Arsenic (air)	N/A
Benzene (air)	26
Benzo(a)pyrene (air)	4.6
Fine particulates	136
Hydrogen sulphide (air)	64
Lead (air)	N/A
Mercury (air)	N/A
Nitrogen Oxides (air)	10,000
Sulfur Oxides (air)	46,000
Volatile organic compounds (air)	850



## 7.2.2 Monitoring results during the reporting period

Air quality data collected from each monitoring location during the reporting period is summarised below. Testing was undertaken between 26-30 November 2018.

Results for all pollutants were below prescribed concentration limits.

**TABLE 7: DISCHARGE POINT 2: 3MW BOILER**

Pollutant	Unit of measure	Mean of sample	Limit Conditions
Temperature	°C	201	na
Nitrogen oxides at 8%O <sub>2</sub>	mg/m <sup>3</sup>	57.4	350
Volatile organic compounds (n-propane) at 8%O <sub>2</sub>	mg/m <sup>3</sup>	1.66	10
Oxygen	%	10.5	na
Velocity	m/s	3.38	na
Dry gas density	kg/m <sup>3</sup>	1.31	na
Molecular weight of stack gases	g/g-mol	29.3	na
Volumetric flowrate	m <sup>3</sup> /s	0.6	na
Moisture	%	7.32	na
Solid particles	mg/m <sup>3</sup>	7.33	10

**TABLE 8: DISCHARGE POINT 3: 0.2MW BOILER**

Pollutant	Unit of measure	Mean of sample	Limit Conditions
Temperature	°C	238	na
Nitrogen oxides at 8%O <sub>2</sub>	mg/m <sup>3</sup>	44.5	350
Volatile organic compounds (n-propane) at 8%O <sub>2</sub>	mg/m <sup>3</sup>	1.85	10
Oxygen	%	11.5	na
Velocity	m/s	10.1	na
Dry gas density	kg/m <sup>3</sup>	1.31	na
Molecular weight of stack gases	g/g-mol	29.2	na
Volumetric flowrate	m <sup>3</sup> /s	0.154	na
Moisture	%	9.79	na
Solid particles	mg/m <sup>3</sup>	nr	10

**TABLE 9: DISCHARGE POINT 5: LIGHT END SCRUBBER**

Pollutant	Unit of measure	Mean of sample	Limit Conditions
Temperature	°C	18.1	na
Volatile organic compounds as propane at 8% O <sub>2</sub>	mg/m <sup>3</sup>	1.31	20
PAHs	mg/m <sup>3</sup>	0.00365	na
Volumetric flowrate	m <sup>3</sup> /s	0.0676	na
Moisture	%	4.22	na
Odour	OU	3477	na

**TABLE 10: DISCHARGE POINT 19: FIRED HEATER**

Pollutant	Unit of measure	Mean of sample	Limit Conditions
Temperature	°C	104	na
Nitrogen Oxides at 8% O <sub>2</sub>	mg/m <sup>3</sup>	107	350
Volatile organic compounds as propane at 8% O <sub>2</sub>	mg/m <sup>3</sup>	2.02	10
Hydrogen sulphide at 8% O <sub>2</sub>	mg/m <sup>3</sup>	0.447	5
Oxygen	%	12.1	na
Velocity	m/s	3.03	na
Dry gas density	kg/m <sup>3</sup>	1.31	na
H <sub>2</sub> SO <sub>4</sub> and SO <sub>3</sub> (as SO <sub>3</sub> equivalent) at 8% O <sub>2</sub>	mg/m <sup>3</sup>	52.8	100
Odour	OU	2783	na
Molecular weight of stack gases	g/g-mol	29.3	na
Volumetric flowrate	m <sup>3</sup> /s	0.498	na
Moisture	%	19.6	na
Solid particles at 8%O <sub>2</sub>	mg/m <sup>3</sup>	10.5	50
Sulphur dioxide at 8%O <sub>2</sub>	mg/m <sup>3</sup>	102	1360
Formaldehyde at 8%O <sub>2</sub>	mg/m <sup>3</sup>	1.22	na

**TABLE 11: DISCHARGE POINT 20: REFORMER**

Pollutant	Unit of measure	Mean of sample	Limit Conditions
Temperature	°C	833	na
Nitrogen Oxides at 4% O <sub>2</sub>	mg/m <sup>3</sup>	67.2	350
Volatile organic compounds as propane at 4% O <sub>2</sub>	mg/m <sup>3</sup>	1.99	10
Hydrogen sulphide at 4% O <sub>2</sub>	mg/m <sup>3</sup>	0.261	5
Oxygen	%	9.23	na
Velocity	m/s	13.0	na
Dry gas density	kg/m <sup>3</sup>	1.34	na
Odour	OU	3955	na
Molecular weight of stack gases	g/g-mol	29.9	na
Volumetric flowrate	m <sup>3</sup> /s	0.245	na
Moisture	%	15.9	na
Solid particles at 4% O <sub>2</sub>	mg/m <sup>3</sup>	5.71	50

Annual assessable loads during the reporting period are provided in Table 12. Results for all assessable pollutants were significantly below load limits.

**TABLE 12: ANNUAL ASSESSABLE LOADS DURING THE REPORTING PERIOD**

Assessable pollutant	Assessable load (kg)	Load limit (kg)
Arsenic (air)	0.248	N/A
Benzene (air)	3.259	26
Benzo(a)pyrene (air)	0.0	4.6
Fine particulates	374.902	1,360
Hydrogen sulphide (air)	13.104	64
Lead (air)	0.734	N/A
Mercury (air)	0.026	N/A
Nitrogen Oxides (air)	3170.936	10,000
Sulfur Oxides (air)	1770.547	46,000
Volatile organic compounds (air)	81.535	850

## 7.2.2 Trends

Table 13 shows the comparison of the 2019 air emission monitoring results (monitoring carried out in December 2018) with those reported for the 2018 reporting period (monitoring completed in December 2017).

**TABLE 13 COMPARISON OF 2019 AND 2018 EMISSION MONITORING RESULTS**

Parameter	Unit	Emission Point	2018 Emission Result	2019 Emission Result
Nitrogen oxides	mg/m <sup>3</sup>	EPL Point 2	81.6	57.4
		EPL Point 3	95.7	44.5
		EPL Point 19	343	107
		EPL Point 20	109	67.2
Solid Particles	mg/m <sup>3</sup>	EPL Point 2	8.9	7.33
		EPL Point 3	3.13	nr
		EPL Point 19	3.06	10.5
		EPL Point 20	6.19	5.7
Volatile Organic Compounds	mg/m <sup>3</sup>	EPL Point 2	<1.28	<1.66
		EPL Point 3	<1.31	<1.85
		EPL Point 5	<1.45	<1.31
		EPL Point 19	<1.61	<2.02
		EPL Point 20	<1.47	<1.99
Odour	OU	EPL Point 5	2070	3477
		EPL Point 19	3680	2783
		EPL Point 20	4116	3955
Hydrogen Sulfide	mg/m <sup>3</sup>	EPL Point 2	<0.0376	<0.158
		EPL Point 3	<0.0658	0.434
		EPL Point 5	<0.0641	<0.447
		EPL Point 19	<0.0616	<0.447
		EPL Point 20	<0.0403	0.261
Sulphuric Acid Mist	mg/m <sup>3</sup>	EPL Point 19	16.7	52.8
Sulphur Dioxide	mg/m <sup>3</sup>	EPL Point 19	44.3	102
PAH [Benzo(a)pyrene equivalent]	mg/m <sup>3</sup>	EPL Point 5	<0.000001	<0.0000
Formaldehyde	mg/m <sup>3</sup>	EPL Point 2	1.23	21.4
		EPL Point 3	0.31	3.28
		EPL Point 5	0.37	0.50
		EPL Point 19	0.90	1.22

Graphical presentations of this data are provided in Appendix C:

The results show the following trends for the 2019 monitoring results compared to those reported for 2018:

- Nitrogen dioxide emissions were lower for all monitoring points



- Solid particle emissions were consistent for EPL Points 2 and 20 but higher for EPL Point 19
- Volatile Organic Compound emissions were consistent for all monitoring points
- Odour emissions were higher for EPL Point 5, lower for EPL Point 19 and consistent for EPL Point 20
- Hydrogen Sulfide emissions were consistent for EPL Points 2, 5 and 19 and higher for EPL Points 3 and 20
- Sulphuric Acid Mist and Sulphur Dioxide emissions were higher for EPL Point 19
- PAH [Benzo(a)pyrene equivalent] emission was consistent for EPL Point 5
- Formaldehyde emissions were higher for EPL Point 2 and consistent for EPL Points 3, 5 and 19

### 7.2.3 Comparison of emissions to predictions in the EA

A comparison of the 2019 measured air emissions against the predictions made in the 2006 revised Air Quality Assessment, prepared by PAE Holmes as part of the Preferred Project, and the 2010 Air Quality Impact Assessment, prepared by PAE Holmes, are provided in Table 14.

**TABLE 14 PREDICTED VERSUS ACTUAL EMISSIONS**

Emission Point	Parameter	Unit	2006 Air Quality Assessment	2010 Air Quality Impact Assessment	2019 Emission Result
EPL Point 2	Nitrogen Dioxide	mg/m <sup>3</sup>	350	NA	57.4
	Solid Particles	mg/m <sup>3</sup>	50	NA	7.33
	Volatile Organic Compounds	mg/m <sup>3</sup>	6	4.3	<1.66
EPL Point 3	Nitrogen Dioxide	mg/m <sup>3</sup>	350	NA	44.5
	Solid Particles	mg/m <sup>3</sup>	50	NA	nr
	Volatile Organic Compounds	mg/m <sup>3</sup>	7	8	<1.85
EPL Point 5	Volatile Organic Compounds	mg/m <sup>3</sup>	NA	7.7	<1.31
EPL Point 19	Nitrogen Dioxide	mg/m <sup>3</sup>	350	NA	107
	Solid Particles	mg/m <sup>3</sup>	50	NA	10.5
	Volatile Organic Compounds	mg/m <sup>3</sup>	5	NA	<2.02
	Hydrogen Sulfide	mg/m <sup>3</sup>	NA	6.6	<0.447
	Sulphuric Acid Mist	mg/m <sup>3</sup>	NA	110	52.8
	Sulphur Dioxide	mg/m <sup>3</sup>	3709	NA	102
EPL Point 20	Nitrogen Dioxide	mg/m <sup>3</sup>	350	NA	67.2
	Solid Particles	mg/m <sup>3</sup>	50	NA	5.71
	Volatile Organic Compounds	mg/m <sup>3</sup>	7	7.6	<1.99

All measured air emission results in 2019 were below the levels predicted and assessed in the 2006 and 2010 Air Quality Assessment reports.

## 7.2.4 Management implications

Cleanaway Refiners will continue to implement the approved AQMP.

## 7.3 Groundwater contamination

Cleanaway operates in accordance with the EPL12555 and an approved Groundwater Management Plan (GMP). Whilst the GMP is not available on the Cleanaway website, a summary of the GMP is provided within the OEMP. The GMP describes water quality management and monitoring requirements associated with the hydrogenation plant.

Groundwater monitoring locations, monitoring frequency and pollutants are presented in Table 15.

**TABLE 15: EPL12555 GROUNDWATER QUALITY MONITORING LOCATIONS AND POLLUTANTS**

EPA monitoring point	Location	Pollutants	Units	Frequency
6	Bore MW21	Tetrachloroethene (tetrachloroethylene) Total petroleum hydrocarbons (TPH) C10-C36 Fraction Total petroleum hydrocarbons (TPH) C6-C9 Fraction	µg/l	Yearly
10	Bore MW12			
22	Bore MW15			
23	Bore MW19			

Note:

Previously reported Bores MW18, 17 and 20 have been removed from EPL12555.

### 7.3.1 Monitoring results during the reporting period

Groundwater quality data collected from each monitoring location during the reporting period is summarised in Table 16.

TABLE 16: GROUNDWATER QUALITY RESULTS

Sample ID			MW12	MW15	MW19	MW21
Date			29/11/18	30/11/18	30/11/18	30/11/18
Sampled by			AE	AE	AE	AE
Parameter / pollutant	Units	Assessment criteria				
Temperature	oC	-	20.3	22.3	20.4	Dry
Dissolved oxygen	mg/l		4.84	4.93	8.65	
pH	pH		5.9	7.76	6.47	
Oxidation-reduction potential	mV		NP	NP	NP	
Specific conductance	mS/cm		12.6	44.01	48.0	
Tetrachloroethene	µg/l	50 <sup>1</sup>	<1	<1	<1	
TRH C6-C10	µg/l	600 <sup>2</sup>	<10	<10	<10	
TRH C10-C34	µg/l	-	<100	<100	<100	

Notes:

1. Recreation criteria in Guidelines for Managing Risks in Recreational Waters (NHMRC 2008); Stock watering criteria in National Water Quality Management Strategy (ANZECC 2000); and Drinking water criteria in Australian Drinking Water Guidelines 6 (NHMRC2013).
2. Aquatic systems criteria in Dutch 2000 Groundwater Intervention Value.  
NP Not provided

### TRH

Concentrations of TRH C6-C9 fraction were reported below the laboratory limit of reporting (LOR) in groundwater extracted from all sampled monitoring wells.

### Tetrachloroethene

Concentrations of Tetrachloroethene were reported below the LOR in groundwater extracted from all sampled monitoring wells.

## 7.3.2 Trends

Based on the data available, changes in concentration have been assessed over a two year period.

Concentrations of semi-volatile TPH fractions have remained below the laboratory LOR in each of the groundwater monitoring wells sampled.

TPH C6-C9 concentrations in monitoring wells MW17, MW18 and MW21 have historically reported concentrations above the LOR and below the assessment criterion, with a preliminary trend of decreasing concentrations in MW17 and MW18. These wells were not sampled in the monitoring event undertaken for the current reporting period as the EPL was varied in June 2017 to remove three groundwater monitoring points MW17, MW18 and MW20 from the licence and replace them with two alternative groundwater monitoring points MW15 and MW19.

Tetrachloroethene concentrations have historically reported concentrations above the LOR in monitoring wells MW12, MW17, MW18, MW20 and MW21, exceeding the assessment criteria in MW17 and MW21 in the 2016 monitoring event. Concentrations have decreased in all wells sampled since detection. MW21 has not been sampled since 2016 when it reported concentrations a magnitude over the assessment criteria (150 µg/L) as the bore was found to be dry during recent monitoring events.

Groundwater monitoring undertaken to date indicates that:

1. Groundwater impacts appear localised around the original point of contamination, namely the former dye and finishing warehouse located in the centre of the property, and not Cleanaway activities.
2. Concentrations from the monitoring event undertaken for the current reporting period are below the screening criteria under EPL12555 and therefore meet the licence requirement.

A table of groundwater quality monitoring results is provided in Appendix D.

### **7.3.3 Management implications**

On-going implementation of the GWMP will be undertaken by Cleanaway, with the purpose of identifying potential off-site migration of groundwater pollutants and to enable appropriate remedial action to be taken to mitigate any such event.

## **8 Community**

### **8.1 Website**

Cleanaway operates a website ([www.cleanaway.com.au](http://www.cleanaway.com.au)) where members of the community can access information about the site, including the latest reports, management plans and environmental monitoring data, including previous Annual Reviews.

### **8.2 Environmental complaints**

Cleanaway manages complaints in accordance with a complaint procedure and maintains a complaints database.

No complaints were received for the site during the reporting period.

## **9 Independent environmental audit**

In accordance with Condition 4.4, Schedule 2 of PA 05\_0037, an independent environmental audit (2018 IEA) was undertaken in November 2018. The current status of the implementation of actions required by the Audit Action Plan are provided in Appendix E.

A key finding of the 2018 IEA was the need to update the Operational Environmental Management Plan (OEMP), Air Quality Management Plan (AQMP) and Groundwater Management Plan (GWMP) for the Cleanaway Refinery to reflect current operations and regulatory requirements. These Plans were updated during the reporting period and are currently awaiting comments following agency consultation, prior to being finalised.



## 10 Non-compliances during the reporting period

There were no environmental non-compliances occurred during the reporting period.

## 11 Proposed activities during the next reporting period

In accordance with Schedule 2, Condition 3.7 of PA05\_0037 the following strategies, plans and programs will be updated and finalised once comments are received from agency consultation:

- Draft Operation Environmental Management Plan (2019), including:
  - Draft Air Quality Management Plan (2019); and
  - Draft Groundwater Management Plan (2019).

## Appendix A: Conditions relevant to operation phase

Clause	Requirement	Demonstration of Compliance
<b>Statement of commitments</b>		
SOC 13-14	TPI to employ compliance officer	Position is fulfilled by the Cleanaway HSE, an approved and budgeted position.
SOC 15	TPI will develop and implement an IEMS.	Site was independently audited and Certificated by SAI Global for compliance to ISO 14001, ISO 9001 and AS4801 on 26th Oct 07 and was recertified on Nov 2008 Nov 2009 March 2011, March 2012, and June 2013
SOC 16	IEMS to be reviewed at least annually.	As above.  Last ISO recertification audit was:  16 April 2019
SOC 20-24	Communication and consultation requiring public advertisement of 24-hour contact numbers, consultation with public, property owners, and have a complaints Management System	Sign at premises providing community complaints contact number together with website.
SOC 25	SOC states maximum oil 36 000 tonne pa limit.  This has been increased with DPE approval to 40 000 tpa.	Site is now approved to produce up to 40,000tpa
SOC 26 – 27	Ground water quality criteria to be based on ANZECC trigger limits.	Groundwater criteria are based on ANZECC guidelines
SOC 23	Surface Water requires sampling	Sampling occurs quarterly in accordance with SWMP.
SOC 28 – 29	Soil and Water Quality Management Plans for the construction and operation to be prepared.	Addressed in revised OEMP, provided 21 September 2019
SOC 30	Soils and Land Contamination mitigation measures.	Monthly site inspections.
SOC 31	Flora and Fauna mitigation measures.	OEMP updated.
SOC 36	Air Quality Management requirements:	
SOC 36.c	Source emission monitoring to validate EPL compliance	An ongoing requirement of the site EPL. Independent contractor engaged to perform the task on an annual basis.
SOC 36 d	Annual monitoring program including potential compound specific emissions	As part of 36 c

Clause	Requirement	Demonstration of Compliance
SOC 37	Operate facility in accordance with POEO act	Ongoing
SOC 38	Prepare Air Quality Management Plans as part of CEMP and OEMP	OEMP updated.
SOC 39	Operational Air Quality Objectives	Results from air quality are assessed against EPL. Ongoing
SOC 46	Visual Mitigation Measures.	Complete.  A total of 78 trees were planted on the Cleanaway site to fulfil the obligation of the Vegetation Management Plan. 25 <i>Eucalyptus maculata</i> and 25 <i>Eucalyptus fibrosa</i> planted along the southern boundary (P1) fence line, 6 She Oaks planted at (P2), <i>Eucalyptus paniculata</i> planted (P4), a number of <i>Melaleuca revolution</i> and <i>Callistemon saligus</i> in area P3 to replace trees lost since commencement of operation.
SOC 47	Landscape Plan	See above SOC 46.
SOC 48	Traffic Management Plan.	Updated TCC included in revised OEMP
SOC 49	Energy use plan	Pipe lagging inspected on monthly site inspections.  Addressed by Energy Efficiency Operation Act requirements
SOC 50	Waste management plan	All waste on site is managed in accordance with the EPA Waste Classification Guidelines. Licence variation to include waste generation sent to EPA 17/3/08.
SOC 51	Hazards and risk include on risk register	Risk Register has been prepared; independent Hazard audit has been undertaken with findings being addressed.  Risk Register reviewed in 2019. All findings addressed.  Active Risk Management reviewed and updated monthly as per the S&S plan.

Clause	Requirement	Demonstration of Compliance
SOC 52	Check Emergency Management Plan	Sent 6/3/07  Reviewed and tested annually.  The Site Emergency Management Plan was last tested: 28/06/2019).  A Pollution Incident Management Response Plan (PIRMP) has also been prepared, last and tested 28/06/2019
<b>Consent conditions: Project Approval 05_0037</b>		
1.1 f)	Conditions of this approval.	Addressed by this report.
1.3 a)	Any reports, plans or correspondence that are submitted by the Proponent in accordance with this approval; and	As required
Vegetation management plan	Requires planting of vegetative screen, removal of weeds.	Ongoing lawn and weed maintenance.  78 Trees planted (for details refer SOC46 above) weed/grass to be removed, see SOC 31.
Traffic management	6 monthly audit required	TCC updated in the OEMP.
Air Quality management plan	Annual emission tests undertaken	Testing was undertaken in November 2018, as per air quality section of this AEMR.
	Monthly dust monitoring required	Completed.  Monthly dust monitoring program commenced April 08 and ceased on 30 October 2011 due to Project Approval Modification dated 18th October 2011.
	Anemometer required.	Anemometer in place and operational. Data backed up weekly.
	Boiler combustion tuning to be undertaken annually	Boiler combustion tuning is conducted during annual boiler service and whenever units are maintained.
Stormwater management	Stormwater monitoring	Included on monthly site inspection.  Sampling equipment and documented procedure on site.
1.3 b)	The implementation of any actions or measures contained in those reports, plans or correspondence submitted by the Proponent.	See Inspection & Test Plan.



Clause	Requirement	Demonstration of Compliance
2.4 Dust	The Proponent shall design, construct, operate and maintain the project in a manner that prevents and/or minimizes air pollution	Assured Monitoring Group (AMG). No dust concerns during constructions stages. Operation of the site does not generate dust. Dust monitoring ceased 30/10//2011.
2.5 Odour	The Proponent shall not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the Protection of the Environment Operations Act 1997	No odour complaints were received during the period.
2.6	Air Quality Criteria - 2.7 The Proponent shall design, operate and maintain the project in a manner that would achieve emissions compliance with the:	
2.6 a)	Air quality criteria specified in Table 1 of the Modification Approval (16 May 2007);	Refer to section 4 of this report
2.6 b)	the requirements of the Protection of the Environment (Clean Air) Amendment (Industrial and Commercial Activities and Plant) Regulation 2005; and	Refer to section 4 of this report
2.6 c)	The requirements of Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (August 2005).	Included in the revised OEMP and consultant monitoring reports.
2.9	The Proponent shall ensure that the flare is designed, constructed and operated in accordance with the requirements of Clauses 38 – 41 of the Protection of the Environment (Clean Air) Amendment (Industrial and Commercial Activities and Plant) Regulation	Flare Design Brief 22/11/06. Flare designed, constructed and operated in accordance with Clauses 38 – 41 of the Protection of the Environment (Clean Air) Amendment (Industrial and Commercial Activities and Plant) Regulation.
2.10	The Proponent shall design, operate and maintain the project in a manner that complies with all requirements of the EPA as specified in the EPL for the project with respect to volatile organic liquid control equipment prescribed in Part 5 of the Protection of Environment Operations (Clean Air) Amendment (industrial and Commercial Activities and Plant) reg 2005	Resource Recovery and Recycling Facility, Rutherford – Preferred Project Report  Refer EPL Compliance section below.
2	Operation of the Flare	

Clause	Requirement	Demonstration of Compliance
2.11	The Proponent shall not operate the flare except during start-up, shutdown and process upsets. For the purposes of this condition, process upsets shall not exceed 2% of the process operating time per annum. This excludes the initial commissioning period of the project, which is defined as three months from the start-up date of the project.	Flare is operated in accordance with these requirements (also refer condition O6 of the EPL).
2.12 a)	Throughout the life of the project, the Proponent shall keep and maintain detailed records of each use of the flare on site, and the details of all process upsets, start-ups and shutdowns. The records shall be made available to the EPA upon request, and shall include: a) the flare start and stop time, and the reasons for its use;	A flare log is maintained in accordance with this condition (refer also condition M7.1 of the EPL). The Flare log is kept in the Refinery control room.
2.12 b)	b) the process start and stop time, and the reason for each process upset.	Flare log kept in control room; percent time calculated on Monthly site inspection.
2	Boilers	
2.13	The Proponent shall not burn or use waste oil and other non-standard fuels as fuel at the site.	Included in EPL No 12555.
2	Soil and Water	
2.15	Except as may be expressly provided in an EPL for the project, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.	OEMP Storm water Management Plan. Monthly Site inspections, Site inspection and Inspection and Test Plan.
2.16	Prior to the commencement of operations, the Proponent shall ensure that storm water management measures are implemented to mitigate the impacts of storm water run-off from and within the site in a manner that is consistent with the Storm water Management Plan for the catchments. Where a Storm water Management Plan has not yet been prepared, the measures shall be consistent with the guidance contained in Managing Urban Stormwater: Council Handbook (EPA).	OEMP SWMP in place, with adequate systems and procedures in place during construction in regard to storm water. Downstream defender in place with regular inspections and sampling of exit points. Storm water management system upgraded in September 2011 to divert bund water run-off to trade waste.
2	Noise	

Clause	Requirement	Demonstration of Compliance
2.19	The Proponent shall only undertake construction activities associated with the project, that are audible at any residential receptor, between the following hours:  a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive  b) 8:00 am to 1:00 pm on Saturdays; and  c) at no time on Sundays or public holidays.	Construction complete.
2.20	The Proponent shall ensure that noise from the project at the nearest sensitive receiver does not exceed the criteria specified in Table 2 at those locations and during those periods indicated	Report included with 2009 Annual Environmental Report
2	Pre-commissioning - Prior to the commencement of operation of the project, the Proponent shall prepare and submit for the approval of the Director-General the following studies:	Complete.
2.22 a)	An Emergency Management Plan and detailed emergency procedures for the site.	Site Emergency Management Plan sent 6/3/07 – last tested 28/6/2019
2.22 b)	Safety Management System covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms	Safety Management Systems sent 6/3/07 - last tested 28/6/2019
2	Dangerous Goods	
2.24	All chemicals, fuels and oils shall be stored in appropriately bunded areas, with impervious flooring and sufficient capacity to contain 110% of the largest container stored within the bund.	All Dangerous Goods stored in accordance with AS1940.
2	Transport	
2.26	The Proponent shall ensure that B-Doubles associated with the site do not use the New England Highway and Kyle St intersection at any time until the intersection has been upgraded to cater for B-Double movements. In the interim, B-Doubles associated with	Driver code of conduct no longer in use due to intersection upgrade that allows access for B-doubles
2.27	To enforce the nominated B-Double route, as conditioned in 2.26, the proponent shall implement a Transport Code of Conduct for the project. The Code of Conduct shall include, but not necessarily be limited to, the following:	As above

Clause	Requirement	Demonstration of Compliance
2.27 a)	Details of the measures that would be implemented to enforce this route. This shall include, but not restricted to, contractual arrangements and disciplinary action;	Transport Code of Conduct and driver sign off,  AS 2.27
2.27 b)	a program of driver training to ensure that drivers are aware of route restrictions applicable to the development;	Transport Code of Conduct and driver sign off. This is also covered during driver induction training.
2.27 c)	communication and management strategies for both the Proponent's own fleet and contracted fleet to ensure the requirements of the code are met;	Transport Code of Conduct and driver sign off.
2.27 d)	the incorporation of a regular audit and monitoring program for the Code to determine compliance with the Strategy by heavy vehicles associated with the development and to evaluate the effectiveness of the Code in enforcing this route	Inspection and Test Plan.
2.28	The Proponent shall ensure that:  a) all car parking on the site is constructed in accordance with the relevant requirements in AS 2890.1-2004;	Internal Traffic Management Plan sent 13/12/06
2	Flora and Fauna	
2.31	The Proponent shall minimize any clearing of vegetation during construction work, and shall retain the vegetation community, referred to as 'Remnant 4' on Map Reference 2118506A_2001 (Figure No.11 of the EAR), and partially retain the vegetation community, referred to as 'Remnant 3', throughout the life of the development in a healthy and tidy state.	Refer to SOC 46. Complete.
2	Visual	
2.32	The Proponent shall ensure that all external lighting associated with the project:  a) does not create a nuisance to surrounding properties or roadways; and  b) complies with AS 4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.	Lighting installed during construction phase.  OEMP ensures on-going compliance.
2	Asbestos	



Clause	Requirement	Demonstration of Compliance
2.33	The Proponent shall handle and dispose of asbestos containing materials in accordance with the Protection of the Environment Operations (Waste) Regulation 1996.	All asbestos sheeting has been removed. We conduct asbestos monitoring on-site twice annually. All asbestos monitoring is below detection limits.
2.34	Prior to the commencement of construction work at the site, the Proponent shall ensure that all asbestos-containing materials, including friable asbestos particles within soil, are identified, treated and/or removed to ensure no long-term impact on human	CEMP  Complete however requires ongoing updates.
2.35	The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version	Construction complete
3	Environmental Management and Monitoring	
3	Environmental Representative	
3.1	Prior to the commencement of construction, the Proponent shall employ a suitably qualified and experienced environmental representative/s, whose appointment has been endorsed by the Director-General. The Proponent shall employ this representative/s throughout the life of the project and notify the Director General of any changes to the appointment that may occur from time to time.	Nomination approved by the DG. 18/9/06
3	Environmental Management and Monitoring	
	Operational Monitoring - Air	
3.2	Air quality monitoring will be undertaken in strict accordance with the requirements set out in the EPL covering the operation of the facility and the Rutherford Resource Recovery and Recycling Facility Air Quality Management Plan (AQMP) prepared by Pacific Air and Environment (PAE), dated 20 March 2007	OEMP revised with updated Air Quality Management Plan (AQMP)  Testing was undertaken per attached reports.
3	Operation Environmental Management Plan	

Clause	Requirement	Demonstration of Compliance
3.5	Prior to the Commencement of operations, the Proponent shall prepare (and following approval implement) an Operation Environmental Management Plan (OEMP) for the project, in consultation with the EPA, DNR and Council, and to the Satisfaction of the Director Prior to the Commencement of operations, the Proponent shall prepare (and following approval implement) an Operation Environmental Management Plan (OEMP) for the project, in consultation with the EPA, DNR and Council, and to the Satisfaction of the Director General. This plan must describe the environmental management framework practices and procedures that would be followed during operations and Include:	Revised OEMP sent September 2019  Operation Environmental Management is governed by the Cleanaway Health Safety and Environment Management Plan.
3.5 a)	Identification of all statutory and other obligations that the Proponent is required to fulfil in relation to operation of the development, including all approvals, licenses, and consultations;	Revised OEMP sent September 2019  Environmental Representative.
3.5 b)	A description of the roles and responsibilities for all relevant employees involved in the operation of the development;	Revised OEMP sent September 2019
3.5 c)	Overall environmental policies and principles that will be/are applied to the operation of the development.	Revised OEMP sent September 2019
3.5 d)	Standards and performance measures that will be applied/are to the development, and a means by which environmental performance can be periodically reviewed and improved;	Revised OEMP sent September 2019  Environmental Performance reviewed in this report and the annual report to EPA.
3.5 e)	Management policies to ensure that environmental performance goals are met and to comply with the conditions of this approval;	Revised OEMP sent September 2019
3.5 f)	Details of all landscaping to be undertaken on this site;	Refer to SOC 46. Complete.
3.5 g)	The various management plans required under this approval; and	Multiple management plans outlined above in SOC section of this plan.
3.5 h)	Contingency measures should monitor of environmental issues under this approval indicate that the development has had, or is having an adverse environmental impact	Refer Ground Water and Air Quality management plans as well as INCR procedure.
3.6	The OEMP for the project shall include the following Management Plans:	

Clause	Requirement	Demonstration of Compliance
3.6 a)	An Air Quality Management Plan outlining the measures that would be implemented to minimise and manage air quality impacts of the proposal, particularly odour. The Plan shall include, but not necessarily be limited to: i) identification of all point and diffuse sources of air quality emissions associated with the project; ii) a detailed description of the mitigation methods and management practices that would be used throughout the project, particularly methods to ensure offensive odour impacts do not occur off site, and a demonstration that these measures are consistent with industry best practice; iii) a detailed monitoring program for the project; iv) details of the contingency measures that would be implemented if non-compliance with air quality emission criteria is detected or if offensive odour impacts occur; and v) a procedure for handling complaints	Air Quality management Plan (AQMP) Revised OEMP sent September 2019
3.6 b)	A Transport Code of Conduct to outline measures to manage all heavy vehicle traffic movements associated with the project to minimise impacts on the local and regional road network, including traffic noise. The Code shall address the requirements of the Council and the RTA and shall include, but not necessarily be limited to: i) restrictions to routes, where relevant ii) management measures to reduce volumes of heavy vehicles travelling to and from the site during peak hours, particularly B-Double movements at the Kyle St/New England Highway intersection during peak hours; and iii) details of what disciplinary actions would be taken should any non-compliance with the Transport Code of Conduct be detected	Transport Code of Conduct (TCC) in revised OEMP sent September 2019

Clause	Requirement	Demonstration of Compliance
3.6 c)	<p>A Groundwater Management Plan to detail measures to monitor, and where applicable, manage the impact on groundwater. The Plan shall be prepared in consultation with DNR and EPA, and shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> <li>i) Details of baseline groundwater quality, as present prior to the commencement of construction of the development;</li> <li>ii) Groundwater assessment criteria for a broad range of parameters, including, heavy metals, total nitrogen and total phosphorous;</li> <li>iii) Monitoring program of groundwater quality, including frequency of monitoring and monitoring locations;</li> <li>iv) Details of contingency measures and management options should monitoring of groundwater quality indicate that the development has had, or is having, an adverse effect on groundwater quality;</li> <li>v) Details of the nominated contingency measures and management options, should monitoring of groundwater quality indicate that the development has exceeded these criteria. These levels and contingency and management options must be developed to the satisfaction of the EPA and DNR</li> </ul>	Groundwater Management Plan (GWMP) in Revised OEMP sent September 2019
3.7	Within 3 months of the completion of each Independent Environmental Audit (see condition 4.4), the Proponent shall review and update the Operational Environmental Management Plan (OEMP) for the project, in consultation with the EPA and Council, and to the	Complete.
5	Environmental Reporting	
	Incident Reporting	
5.1	The Proponent shall notify the EPA and the Director-General of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Proponent shall provide written details of the incident to EPA and the Director General within seven days of the date on which the incident occurred.	<p>Cleanaway Incident Reporting Procedure</p> <p>A Pollution Incident Management Response Plan has also been prepared in July 2012 and last tested 28/6/2019</p>
5	Annual Performance Reporting	

Clause	Requirement	Demonstration of Compliance
5.2	Within 12 months of the commencement of operations, and annually thereafter, the Proponent shall submit an Annual Environmental Management Report (AEMR) for the project to the EPA, Council and the Department. The AEMR shall include:	This report is the eleventh AEMR to be submitted.
	a) details of compliance with the conditions of this approval, and any other licences and approvals for the project;	As above
	b) a list of variations obtained to approvals applicable to the development and to the site during the preceding twelve-month period;	As above
	c) a copy of the Complaints Register for the preceding twelve-month period (exclusive of personal details) and a description of how these complaints were addressed and resolved;	As above
	d) results of all environmental monitoring required under this approval and other approvals, including interpretations and discussion by a suitably qualified person;	As above
	e) a list of all occasions in the preceding twelve-month period when environmental performance goals for the development have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of	As above
	f) a comparison of the environmental impacts and performance of the development against the environmental impacts and performance predicted in the EA and the additional information listed under condition 1.1	As above
	g) identification of trends in monitoring data over the life of the development to date; and	As above
	h) environmental management targets and strategies for the following twelve-month period, taking into account identified trends in monitoring results.	As above
6	Access to Information	
6.1	Subject to confidentiality, the Proponent shall make all documents required under this approval publicly available	As Required
6	Complaints Procedure	

Clause	Requirement	Demonstration of Compliance
6.3	The Proponent must record details of all complaints received about the project in an up-to-date Complaints Register	Complaints Procedure
6.3	The Complaints Register must be made available for inspection by the Director-General upon request	Complaints Register Available as requested

### EPL12555 Reporting requirements

Condition	Requirement	Demonstration of Compliance
L2.2	Load limits	Annual emission report being undertaken.
L3	Concentration limits	Annual emission report being undertaken.
L5	Noise Limits	See Noise Validation report.
O3.1	Within 3 months of issue emergency response plan must be developed	Located at front gate
O5.1	All above ground tanks must be bunded or have alternative spill containment systems in place	Sighted on inspection
O5.2	All tanks to have suitable measures (high/low alarms control valves etc.) to prevent spills	Sighted on inspection
O6	Flare operation	Logging system in place
M5	Monitoring records to be kept and be readily producible	On file
M2.1	Requirement to monitor concentration of pollutants	Annual emission report
M4	Requirement to monitor weather	System installed.
M5	Recording pollution complaint	Complaint folder on site
M6	Telephone complaints	Complaint folder on site
M7.1	Records of flare operation	Flare log on site
R1	Annual return	Annual Return submitted to EPA on 27/11/2019
R1.9	Results of air quality test must be submitted to EPA within 6 months of issue of license	All available reports have been submitted to the EPA as required.

## Appendix B: Conditions previously reported, which relate to construction or pre operational issues

Clause	Requirement	Demonstration of compliance
<b>Statement of commitments</b>		
SOC 7	Pre-construction compliance report.	Amendments to pre-construction document date sent 16/03/07.
SOC 9	Construction Compliance report	Sent 21st Feb 07 & 22 Aug 07
SOC 10	Pre operation Compliance report	Sent 22/08/07
SOC 12	Environmental Impact Report.	Air Noise Validation Report from ENSR, sent 22/12/08
SOC 17	CEMP to be prepared and implemented.	Sent to DoP 10/10/06
SOC 18	Audit OEMP against SOC	OEMP Sent 6/3/07  OEMP was superseded by the TPI National Integrated Management System (NIMS) which includes a Business Unit Annual Plan (BUAP).
SOC 19	Appointed Construction contractors have EMS prepared in accordance with ISO 14001.	CEMP was sent 10/10/06
SOC 32	Clearing Management Plan required prior to construction.	Detailed in CEMP Sent 24/11/06, Construction complete
SOC 33	Indigenous Heritage to be protected during construction.	No significant heritage was identified in study under taken, indigenous or otherwise.  Complete
SOC 34	Non - Indigenous Heritage	As above  Complete
SOC 35	CEMP to identify and protect heritage items.	No heritage items were identified in initial studies. CEMP required any additional items to be notified to project manager complete
SOC 36 a	Post commissioning validation in respect to odour	See Comprehensive Odour Audit submitted 19/12/08.  Updated copy of the Pollution Reduction Program was submitted 5th October 2010



Clause	Requirement	Demonstration of compliance
SOC 36 b	Full odour audit with olfactometry analysis	See Comprehensive Odour Audit submitted 19/12/08.
SOC 36 e	Dust monitoring to assess dust levels	Monthly dust monitoring program by ENSR, commenced April 08 and ceased on 30 October 2011 date, due to Project Approval Modification dated 18th October 2011.
SOC 40-42	Construction noise management plan	Addressed in CEMP. Complete
SOC 43-45	Operation Noise Management Plan.	Addressed in OEMP. Complete
Ground water management plan	Monthly level measurements	Monthly measurements commenced April 2008 and ceased on 30th October 2011 under Project Approval Modification dated 18th October 2011
	quarterly VOC tests requires	Scheduled quarterly testing by ENSR commenced November 07.  This has been replaced with the project approval modification dated the 18th October 2011. Bi-annual testing is now undertaken as per the EPL.
<b>Project Approval PA 05_0037</b>		
1	Administrative Conditions - The proponent shall carry out the project generally in accordance with the:	
1.1 a)	EAR as amended by the preferred project report (Resource Recovery and Recycling Facility, Rutherford – Preferred Project Report), prepared by Parsons Brinckerhoff Australia Pty Ltd and dated May 2006;	Resource Recovery and Recycling Facility, Rutherford – Preferred Project Report
1.1 b)	Statement of Commitments (SOC) , prepared by Parsons Brinckerhoff Australia Pty Ltd and dated 19 May 2006; and	See below.
1.4	The Proponent shall not process more than 40,000 tonnes of waste lubricant oils a year at the hydrogenation plant.	Included in EPL No 12555
1.5	This proposal shall lapse five years after the date on which it is granted.	The plant is now operational.

Clause	Requirement	Demonstration of compliance
2.1	Except as provided in condition 2.2 of this consent and/or expressly permitted by an EPL, the Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing or disposal	Included in EPL No 12555
2.2	The Proponent shall only receive, store, treat, process or reprocess the following wastes at the site: Waste lubricant Oils	Included in EPL No 12555
2.3	The Proponent is prohibited from storing green waste and septic waste on site.	Not part of Cleanaway Refiners business
2.7	Design, operate and maintain the project in a manner that would achieve Best Available Control Technology for toxic air pollutants specified in Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (August 2005)	Addressed by Resource Recovery and Recycling Facility, Rutherford – Preferred Project Report
2.8 a)	The Proponent shall ensure that all stack air emission points at the site are designed to broadly conform to the general requirements of Guidelines for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height	Stack Location Report 12/09/2007
2.8 b)	The Proponent shall ensure that all stack air emission points at the site are designed to accommodate and be built with sampling ports that conform with TM-1 as specified in Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales	Stack Location Report 12/09/2007.
2.9	The manufacture's design specification for the flare must include the design destruction efficiency and must be submitted to the EPA for approval. The EPA's approval in writing must be obtained by the Proponent prior to the installation of the flare,	Flare Design Brief 22/11/06
2.17	Prior to the commencement of construction, the Proponent shall submit to the Director-General for approval, a soil contamination validation report to confirm the presence, or otherwise, of any contamination within the construction footprint of the development, and to demonstrate that any contamination on the site is not inconsistent with the development. The validation report shall be prepared by a suitably qualified and independent person(s), and shall detail any additional measures that shall be implemented to address contamination, if identified, and if required	Soil Contamination Report sent 10/10/06

Clause	Requirement	Demonstration of compliance
2.18	Within six months of the granting of the modified consent, the Proponent must complete the following groundwater contamination investigation and works which includes, but need not be limited to the following:	Groundwater Contamination Report 18/4/07, the finding of this report requires the installation of further bores and an assessment on the cation exchange capacity of the soil.  This work commenced on 24/4/08, report submitted 21st July 08.
	a) An assessment of the potential for off-site migration of chemicals of potential concern (including Tetrachloroethene);	As above
	b) Identification, based on the activities carried out at the site, of suspected source locations. If suspected source locations are identified, an evaluation of the presence of DNPLs trapped in or above lower permeability zones above the regional groundwater aquifer must be undertaken (note that care must be taken to ensure that the regional aquifer is not penetrated at suspected source locations);	As above
	c) Works to assess regional groundwater and determination of hydrogeological characteristics (such as flow and direction). Such works must include the installation of additional wells across the site to:  - enable the groundwater flow direction to be determined;  - further investigate the lateral and vertical extent of groundwater contamination;  - enable more accurate falling head tests and/or a pump test to be undertaken; and  - allow collection of soil samples within the water bearing zone.	As above
	d) Soil samples collected must be analysed for organic carbon content and cation exchange capacity to allow fate and transport modelling to assess the potential for adsorption and retardation of dissolved organic compounds;	As above
	e) An assessment of risk posed by the contamination and recommendations for appropriate management requirements.	As above
	The Director-General and the EPA must be provided with a copy of the report detailing the results of the	As above

Clause	Requirement	Demonstration of compliance
	investigations within 7 months of the modified development consent being granted.	
	The Proponent shall comply with all reasonable requirements of the Director-General and the EPA in respect of the implementation of any measures presented in the Report. Any such works shall be completed within such time as the Director-General or the EPA may require.	All requests have been met
2	Hazards and Risks	
2.21 a)	Fire Safety Study covering the relevant aspects of the Department of Planning's Hazardous Industry Planning Advisory Paper No. 2	Revised Fire Safety Study sent 31/11/06.  Fire Study revised and updated April 2013.
2.21 a)	Fire Safety Study covering the relevant aspects of the Department of Planning's Hazardous Industry Planning Advisory Paper No. 2 - approval for this study shall also be obtained from the Commissioner of the NSW Fire Brigades/Rural Fire Service.	Fire Safety Study sent 31/11/06
2.21 b)	Hazard and Operability Study, The study shall be carried out in accordance with Department of Planning's Hazardous Industry Planning Advisory Paper No. 8 - HAZOP Guidelines.	Hazard and Operability Study sent 3 Nov 06
2.21 b)	Hazard and Operability Study, undertaken by an independent qualified person approved by the Director-General.	Approval received 24/10/06
2.21 c)	Final Hazard Analysis prepared in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis.	Final Hazard analysis sent 13/12/06
2.21 d)	Construction Safety Study prepared in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Guidelines	Construction Safety Study sent 30/11/06
2	Post Commissioning	
2.23	Prior to commencement of operations, the Proponent shall submit to the Director-General, a Pre-Start up Compliance Report, detailing compliance with conditions 2.21 and 2.22 including:	Pre start up compliance Report sent 22 Aug 07

Clause	Requirement	Demonstration of compliance
	a) dates of commissioning of plant;	Commissioning of plant commenced 22 May 07 to 22 Sept 07.
	b) an action plan to implement recommendations made in studies listed in conditions 2.21 and 2.22; and	Ongoing requirements included in Annual Inspection and Test Plan.
	c) responses to each requirement imposed by the Director-General in respect of implementation of any measures arising from recommendations of the studies or reports referred to in conditions 2.21 and 2.22 and the hazards-related conditions of this approval, within such time as the Director-General may agree.	Letter of approval received 3 Oct 07
2.25	Prior to the Commencement of operations or as otherwise agreed by the Director-General, the Proponent shall provide a monetary contribution of \$60, 000 to the RTA towards the upgrade of the New England Highway and Kyle St intersection to accommodate B-double.	Bank Guarantee Receipt issued May 2007
2.29	Prior to the commencement of construction work, the proponent shall submit to the Director General documentation detailing the internal traffic management plan, particularly the internal road works and car parking arrangement for the project.	Internal Traffic Management Plan sent 27/9/06
2.30	Prior to the commencement of construction work, the proponent shall demonstrate to the Director General that any applicable consent for the site access road works have been granted under section 138 of the Roads Act 1993.	Internal Traffic Management Plan sent 27/9/06
3	Construction Environmental Management Plan (CEMP)	Construction complete
3.3	Prior to the commencement of construction, the Proponent shall prepare (and following approval implement) a Construction Environmental Management Plan (CEMP) for the project to the satisfaction of the Director-General.	CEMP sent 10/10/06
3.4 a)	Soil, Water and Dust Management Plan to detail measures to minimise the disturbance of soil, erosion and the generation of dust during construction of the project.	CEMP sent 10/10/06
3.4 b)	Soil Contamination Protocol to manage soil contamination during site preparation and construction works	CEMP sent 10/10/06

Clause	Requirement	Demonstration of compliance
3.4 c)	Vegetation Management Plan to detail measures to minimise the impact of vegetation clearing associated with the project and manage the rehabilitation of remaining remnants throughout the life of the development	Refer to SOC 46. Complete
4	Compliance	
4.1	Prior to the commencement of construction and operations, the Proponent shall certify in writing to the satisfaction of the Director-General, that it has complied with all the applicable conditions of this approval	Pre-Construction Compliance Report sent 11/1/07
4	Compliance, Auditing and Independent Auditing	
4.2	Air Quality and Noise Validation Report	Report submitted 19 Dec 08
	Within 3 months of commissioning operations at the site, the Proponent shall submit an Operational Air and Noise Validation Report for the Project. This Report shall:	AS above
	a) be undertaken by a suitably qualified and experienced person(s);	ENSR
	b) assess whether the project is complying with noise criteria specified in condition 2.20 of this approval, and identify what additional measures could be implemented to ensure compliance should any non-compliance be detected;	As above
	c) validate that the performance of the project reflects the assumptions and conclusions made in the Preferred Project Report and the Environmental Assessment for Transpacific Refiners, Modifications to Existing Development, date 12 April 2007;	As above
	d) undertake air quality validation and performance verification reporting as detailed in the AQMP prepared by PAE, dated 20 March 2007 to validate compliance with the Protection of the Environment Operations (Clean Air) Amendment Regulation 2005 and the emissions inventory of the project as detailed in the Environmental Assessment for Transpacific Refiners, Modifications to Existing Development, dated 12 April 2007.	As above

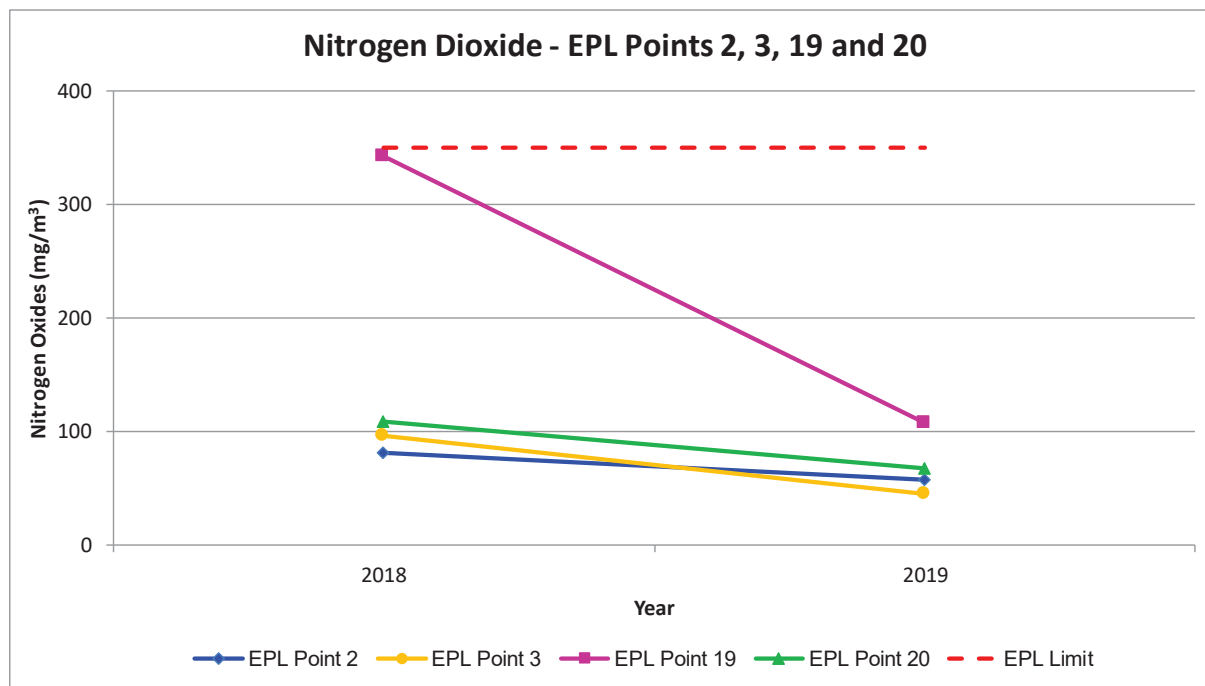
Clause	Requirement	Demonstration of compliance
	e) provide details of each round of Performance Verification Monitoring such that the monitoring frequency for all pollutants can be reviewed, as specified in the AQMP;	As above
	f) identify what additional measures could be implemented to ensure compliance should any non-compliance be detected; and	As above
	g) provide details of any complaints received relating to air quality generated by the project, and action taken to respond to those complaints.	As above
4.3	If the report identifies any non-compliance with the air quality limits imposed under this approval, an EPL for the development and/or does not reflect the conclusions made within the Environmental Assessment for Transpacific Refiners, Modifications to Existing Development, dated 12 April 2007, the Proponent shall detail what additional measures would be implemented to ensure compliance, clearly indicating who would implement the measures, when and how the effectiveness would be measured and report to the Director-General and the EPA.	As above
	The Proponent shall comply with all reasonable requirements of the Director-General or the EPA in respect to the findings presented in the Report.	Agreed
4	Independent Environmental Audit	
4.4	Within one year of the commencement of operations, and then as directed by the Director-General, the Proponent shall commission an Independent Environmental Audit of the development. This audit must:	Report submitted 19 Dec 08
	a) be carried out by a suitably qualified, experienced and independent audit team, that contains an odour specialist and hazard specialist, whose appointment has been endorsed by the Director-General;	As above
	b) be carried out in accordance with ISO 14010 and ISO 14011.	As above
	c) assess whether the project is complying with the conditions of both this approval and the EPL for the project	As above
	d) assess whether the project is being carried out in accordance with industries best practice;	As above



Clause	Requirement	Demonstration of compliance
	e) review the adequacy of the OEMP for the project; compliance with the requirements of the approval and other licences and approvals; and	As above
	f) recommend measures or actions to improve the environmental performance of the project, and/or the OEMP for the project	As above
4.5	Within two months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, with a response to any recommendations contained in the audit report	As above
6.2	Prior to the commencement of construction, the Proponent shall establish community complaints system to the satisfaction of the Director-General	Complaints Procedure sent 10/10/06.  Advertisement placed in Maitland Mercury Friday 16 2007.

## Appendix C: Air Quality Trend Analysis

FIGURE C1: HISTORICAL NITROGEN DIOXIDE (EPL POINTS 2, 3, 19 AND 20) TREND GRAPH



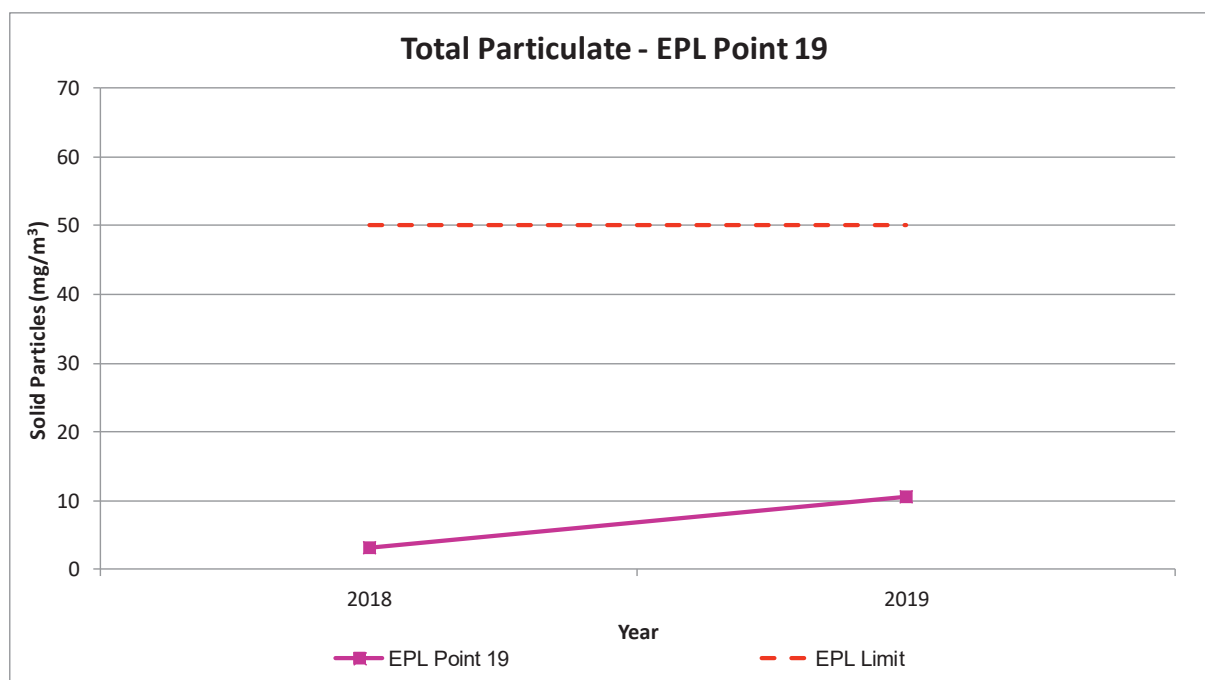
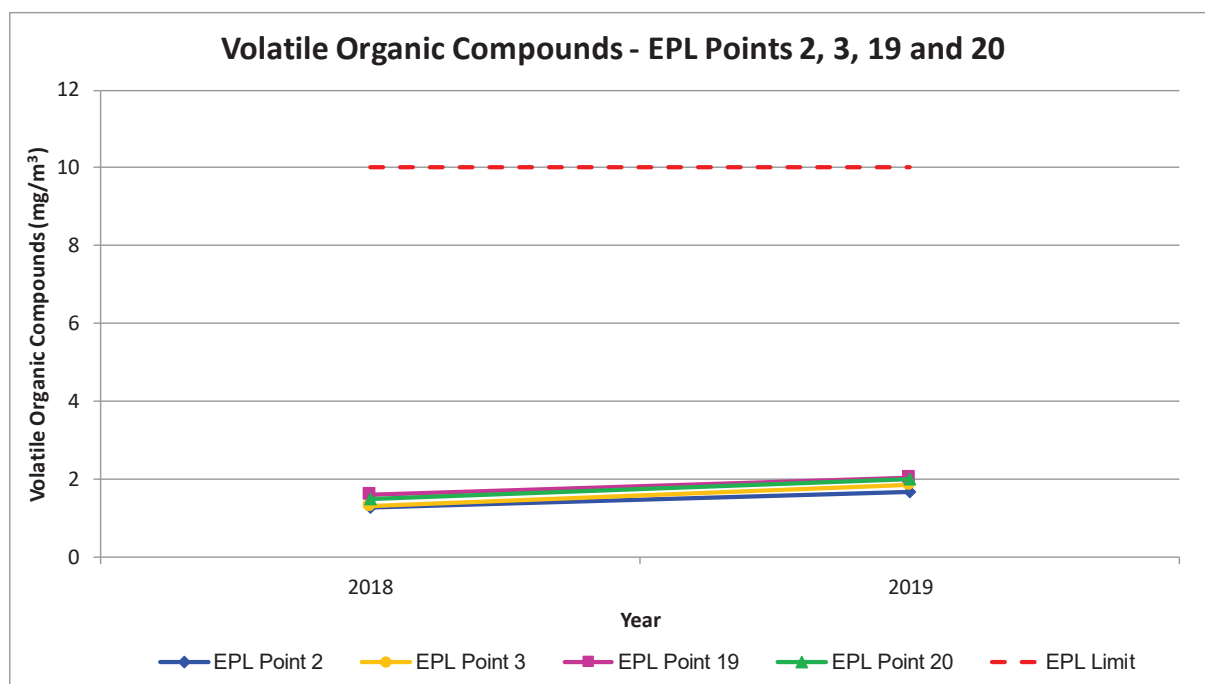
**FIGURE C2: HISTORICAL TOTAL PARTICULATE (EPL POINT 19) TREND GRAPH****FIGURE C3: HISTORICAL VOLATILE ORGANIC COMPOUNDS (EPL POINTS 2, 3, 19 AND 20) TREND GRAPH**

FIGURE C4: HISTORICAL VOLATILE ORGANIC COMPOUNDS (EPL POINT 5) TREND GRAPH

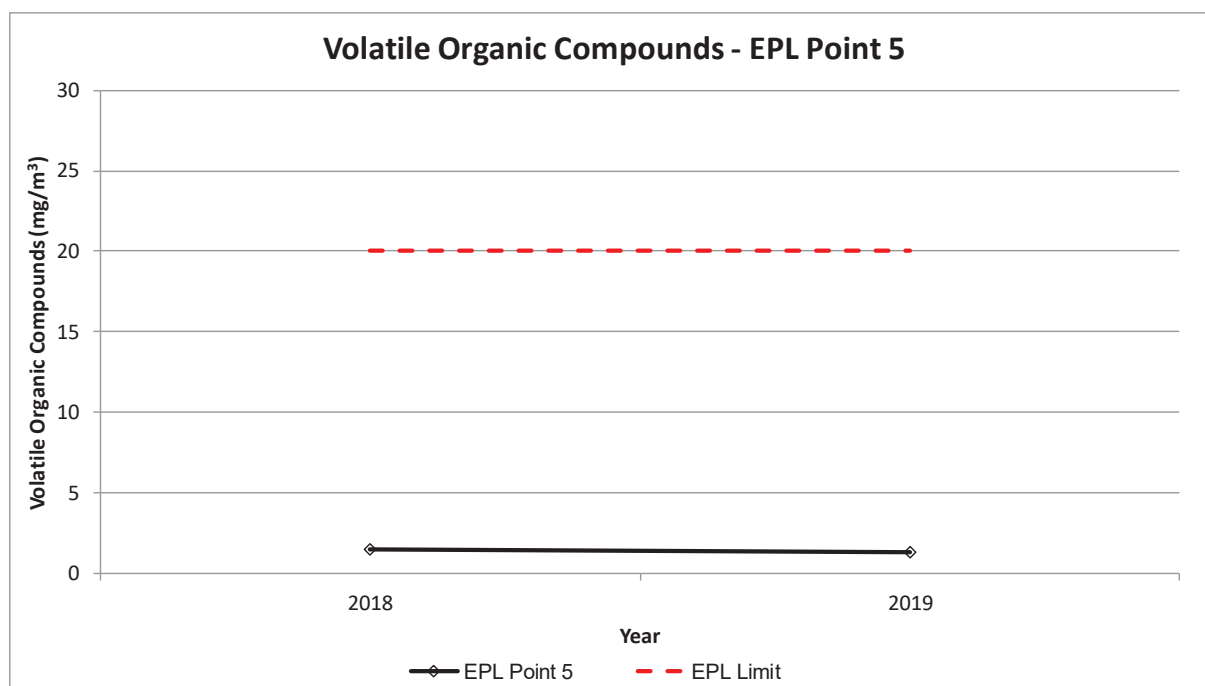
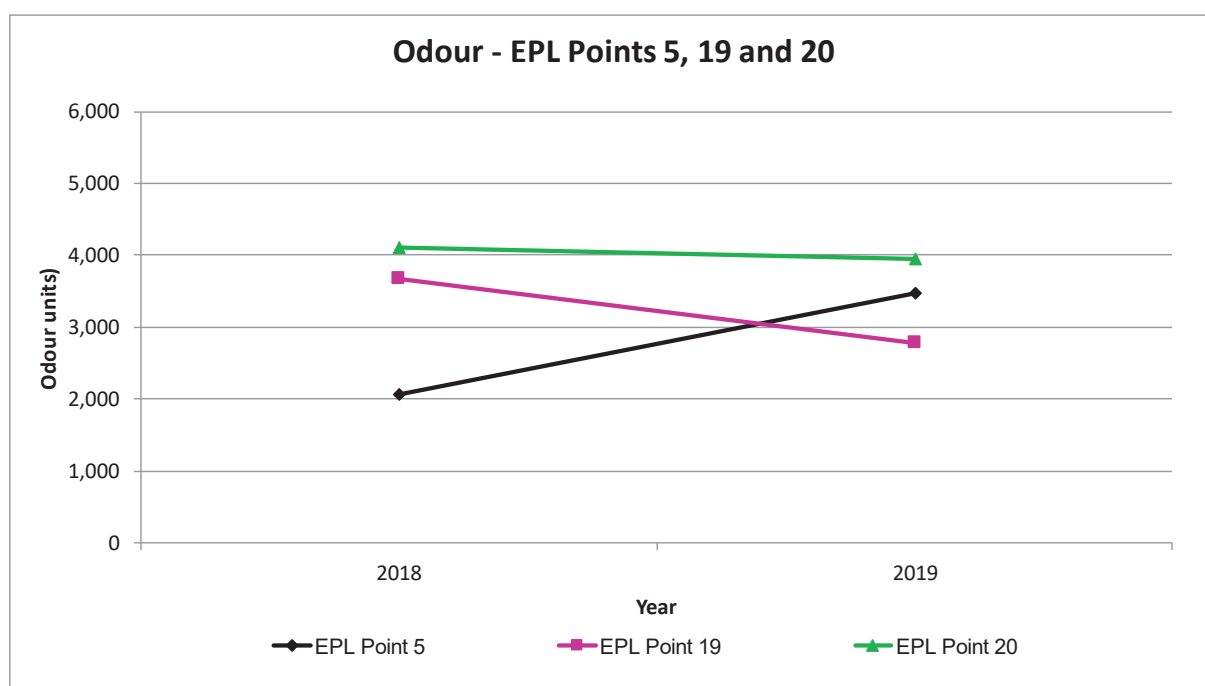
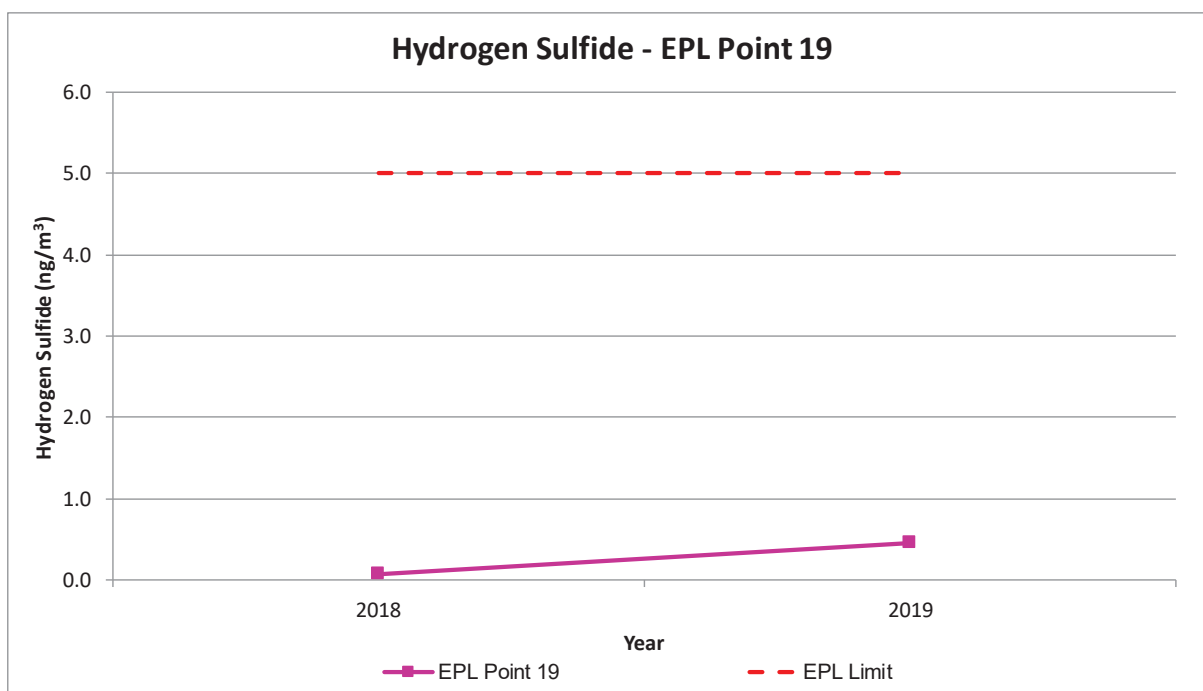
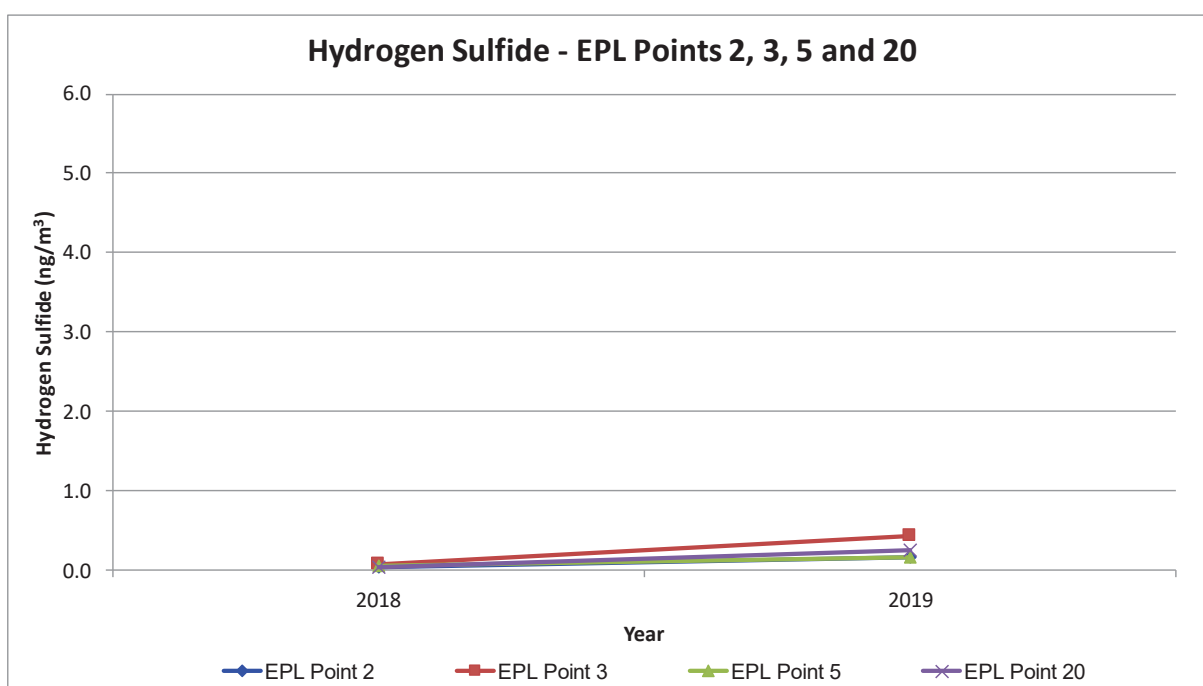
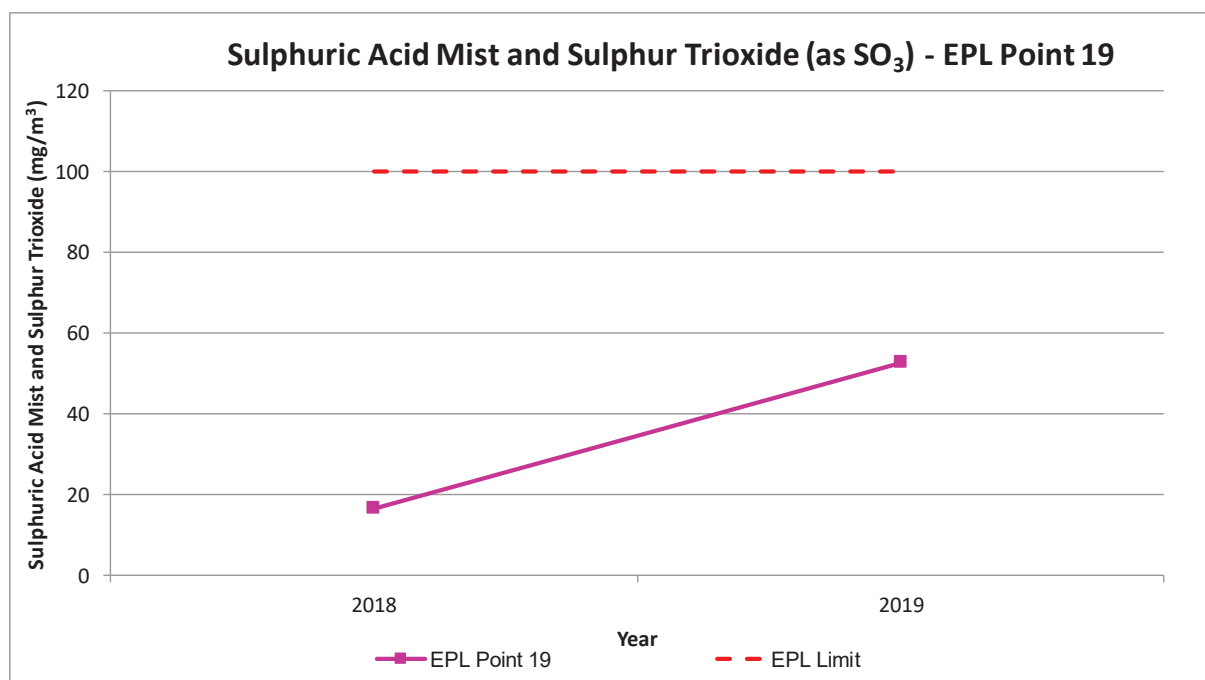
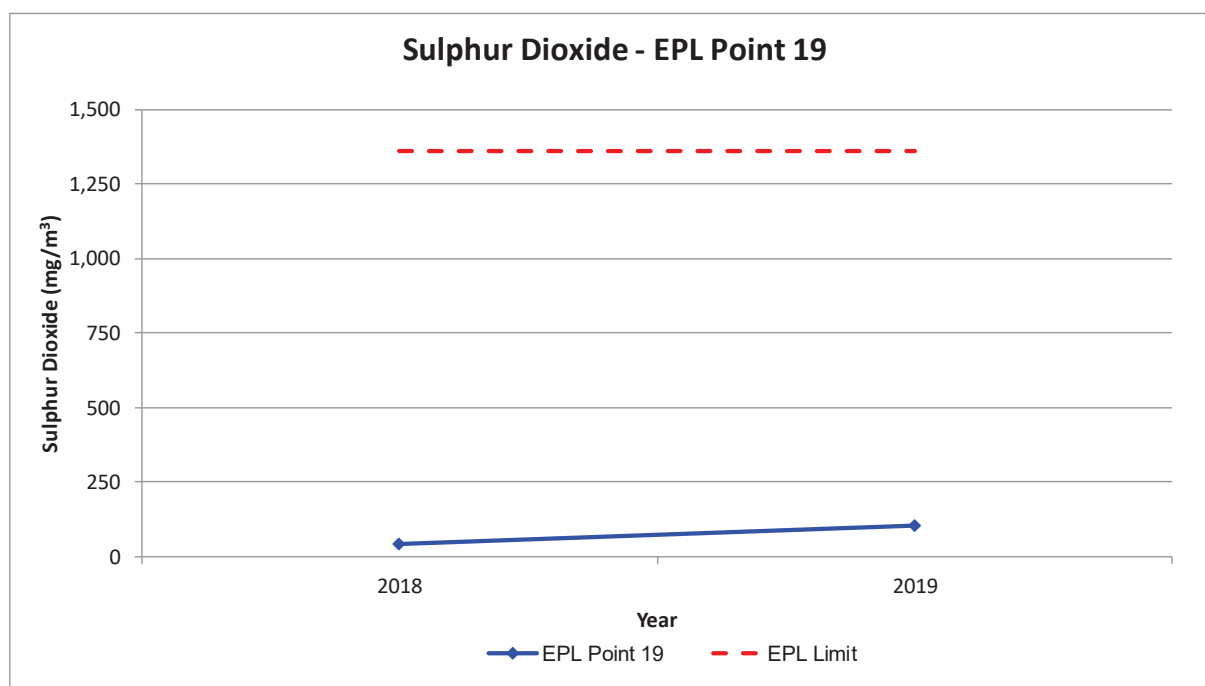
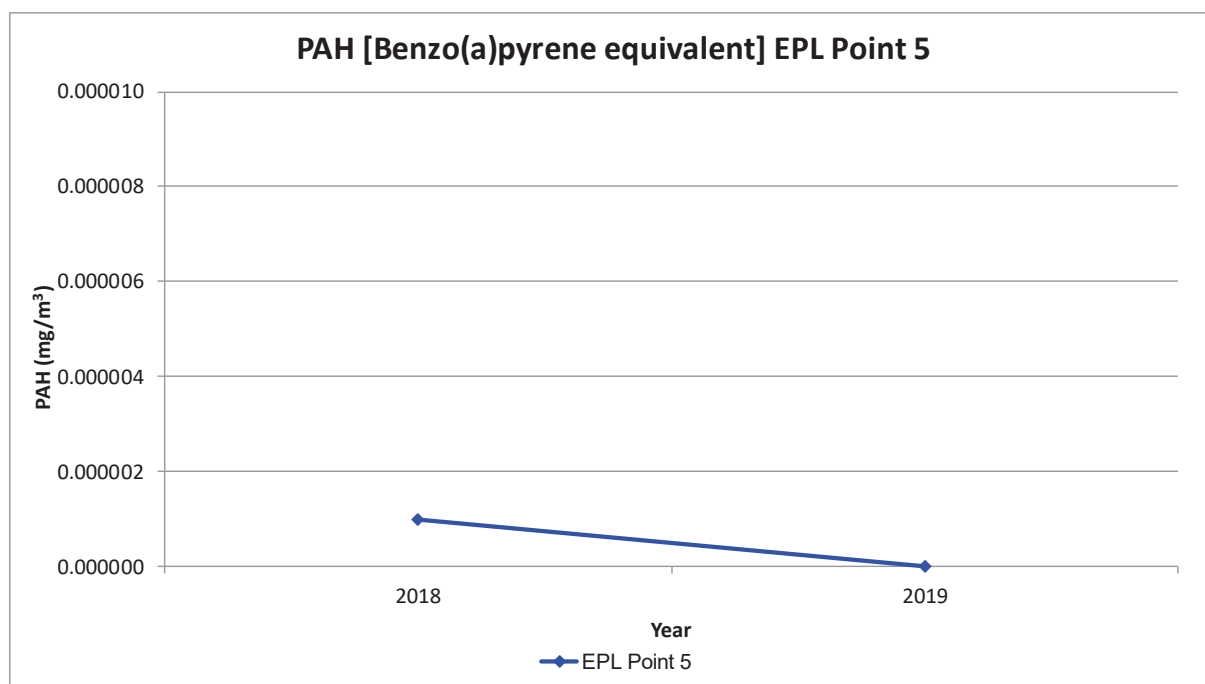
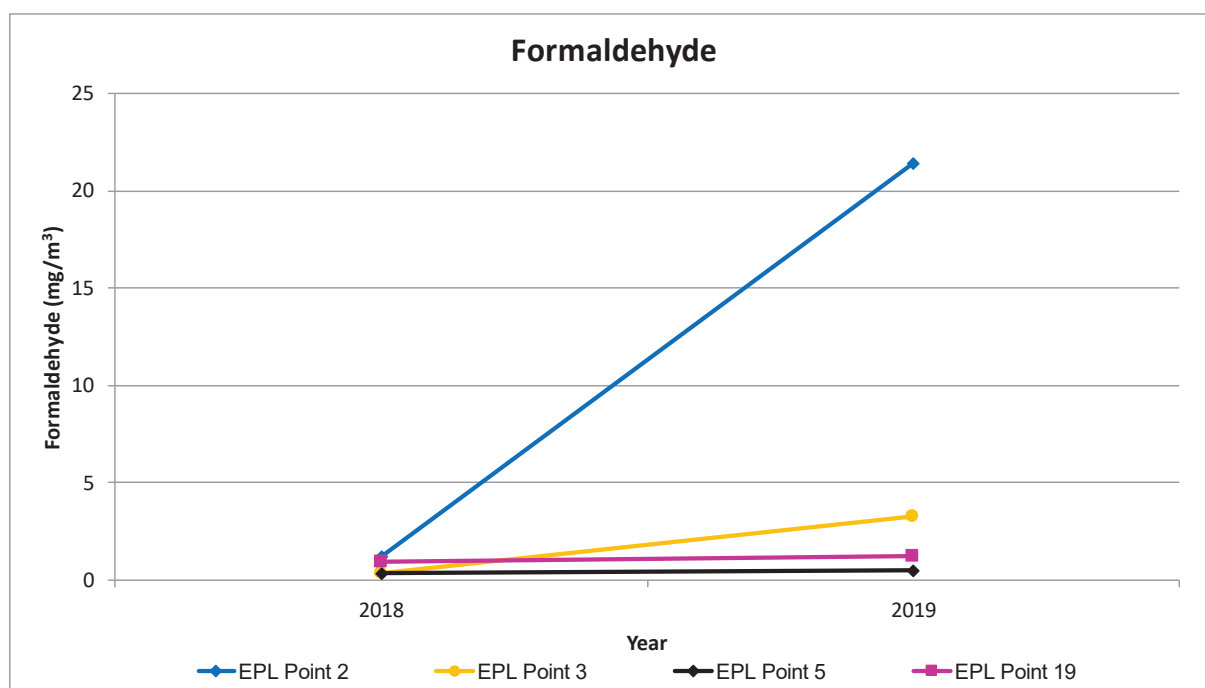


FIGURE C5: HISTORICAL ODOUR (EPL POINTS 5, 19 AND 20) TREND GRAPH



**FIGURE C6: HISTORICAL HYDROGEN SULFIDE (EPL POINT 19) TREND GRAPH****FIGURE C7: HISTORICAL HYDROGEN SULFIDE (EPL POINTS 2, 3, 5 AND 20) TREND GRAPH**

**FIGURE C8: HISTORICAL SULPHURIC ACID MIST AND SULPHUR TRIOXIDE (EPL POINT 19) TREND GRAPH****FIGURE C9: HISTORICAL SULFUR DIOXIDE (EPL POINT 19) TREND GRAPH**

**FIGURE C10: HISTORICAL PAH [BENZO(A)PYRENE EQUIVALENT] (EPL POINT 5) TREND GRAPH****FIGURE C11: HISTORICAL FORMALDEHYDE (EPL POINTS 2, 3, 5 AND 19) TREND GRAPH**



## Appendix D: Groundwater Quality Trend Analysis

				Geochemical Parameters					TRH				
				Temperature (°C)	Dissolved oxygen (mg/L)	pH	Electrical Conductivity (mS/cm)	Oxidation-reduction potential (mV)	C6-C10	C10-C16	C16-C34	C34-C40	Tetrachloroethene
	Sample ID	Date Sampled	Sample Depth (mbgl)										
	MW12	8/12/2016	13.1	20.5	1.4	5.32	12980	119	11	<50	<100	<100	3
		30/11/2017	11.75	26.2	2.72	6.35	12.6	NP	<10	<50	<100	<100	<1
		29/11/2018	13.5	20.3	4.84	5.9	12600	NP	<10	<50	<100	<100	<1
	MW15	30/11/2017	14.25	22.9	7.33	6.74	7.905	NP	<10	<50	<100	<100	<1
		29/11/2018	16	22.3	4.93	7.76	44010	NP	<10	<50	<100	<100	<1
	MW17	8/12/2016	12.9	19.8	2.34	6.37	8120	-18.8	250	<50	<100	<100	54
		13/12/2017	12.87	21	NP	7	7960	-50.1	140	<100	<200	<200	39
	MW18	8/12/2016	12.77	20.5	1.45	6.4	7840	-99.5	75	<50	<100	<100	26
		13/12/2017	12.96	30.2	NP	7.02	8030	18.2	25	<100	<200	<200	12
	MW19	30/11/2017	14.5	21.7	1.88	6.51	5950	NP	<10	<50	<100	<100	<1
		29/11/2018	17	20.4	8.65	6.47	48000	NP	<10	<50	<100	<100	<1
	MW20	8/12/2016	13.96	20.7	2.1	6.31	7650	62.2	<10	<50	<100	<100	2

				Geochemical Parameters					TRH				
				Temperature (°C)	Dissolved oxygen (mg/L)	pH	Electrical Conductivity (mS/cm)	Oxidation-reduction potential (mV)	C6-C10	C10-C16	C16-C34	C34-C40	Tetrachloroethene
	Sample ID	Date Sampled	Sample Depth (mbgl)										
		13/12/2017	17	22.4	NP	7.18	7610	91.4	<10	<100	<200	<200	<1
	MW21	8/12/2016	12.78	33.3	3.23	6.61	5681	-15.7	400		<100	<100	150
		30/11/2017	Dry	-	-	-	-	-	-	-	-	-	-
		29/11/2018	Dry	-	-	-	-	-	-	-	-	-	-

**Notes:**

NP

Not Provided

## Appendix E: Independent Environmental Audit Action Plan

**TABLE E-1: SUMMARY OF RECOMMENDATIONS RELATING TO MANAGEMENT PLANS, SITE OBSERVATIONS AND PREVIOUS IEA RECOMMENDATIONS**

Source	#	Recommendation / Opportunity for Improvement	Action	Who / When
Operational Environmental Management Plan	2018 IEA REC 01	<p>It is recommended that the OEMP is revised to consider the following:</p> <ul style="list-style-type: none"> <li>• Replace Transpacific with Cleanaway</li> <li>• Update the address to 41 Kyle Street rather than the redundant 11 Kyle Street address</li> <li>• Include a brief overview of the site operations to provide some context</li> <li>• Update the OEMP with the current statutory and other obligations. The Project Approval has been modified and the EPL varied a number of times since 2007. The OEMP does not clearly list these approvals and licences or others including the Trade Waste Agreement or Dangerous Goods Notification</li> <li>• Include reference to PA 05_0037, Condition 3.5 in the 'Purpose and Scope' section of the OEMP</li> <li>• The Table included in Section 4.0 Development Approval Condition, which outlines the requirement of Condition 3.5 and where it is addressed will be more useful in the Scope section</li> <li>• Update the Compliance Management Statutory Register</li> <li>• Update the Roles and Responsibilities to include the Environmental Representative required by CoA 3.1</li> <li>• Review and update the performance measures required / implemented to ensure they reflect current practices and requirements</li> <li>• Details of landscaping undertaken on site are not contained within the OEMP but outlined in the CEMP and Vegetation Management Plan (VMP), both of which have not been sighted and are no longer relevant / implemented. Include relevant landscaping information of from the CEMP and VMP in the OEMP</li> <li>• Include details of contingency measures for adverse environmental impacts which are not currently outlined in the OEMP, but have been outlined in the GMP, AQMP and Site Emergency Management Plan</li> <li>• Update references to referenced documents, for example the Environmental Policy was reviewed on 1 May 2018 however the OEMP includes a superseded version of the Policy from 2006</li> <li>• Update Section 3.0 Environmental Management to ensure it reflects regulatory requirements and current practices</li> </ul>	Revise the OEMP	<p>CWY Environ. Team/ Complete.</p> <p>Revised OEMP documents submitted to the Department.</p> <p>No agency comments received to date.</p>

Source	#	Recommendation / Opportunity for Improvement	Action	Who / When
		<ul style="list-style-type: none"> <li>Specify a sampling regime for assessing surface water quality against the objectives provided in SOC 27A</li> <li>Include a clearer figure which shows the as the Site Plan</li> </ul> <p>A copy of the updated OEMP should be provided to the DPE, EPA and Council.</p>		
Groundwater Management Plan	2018 IEA REC 02	<p>It is recommended that the GMP is revised to consider the following:</p> <ul style="list-style-type: none"> <li>Update the address to 41 Kyle Street rather than the redundant 11 Kyle Street address in Table 2.1</li> <li>Update the GMP to include a section detailing the baseline groundwater quality prior to commencement of construction</li> <li>The plan does not reference the monitoring requirements of EPL 12555. Though the monitoring requirements outlined in the plan are consistent with the EPL, it is recommended that the plan refer to the actual requirements of the EPL. For example, making specific reference to Condition M2.3, including the monitoring location description and EPA identification number provided in Condition P1.3 and referencing the requirement to not cause pollution of waters as per Condition L1.1</li> <li>Table 3.1 provides groundwater assessment criteria for a number of pollutants however Cleanaway is only monitoring for Perchloroethene /Tetrachloroethne (PCE), and Total petroleum hydrocarbons (TPH) as required by its EPL. The plan should include discussion of the relevance of the criteria identified for the other contaminants</li> <li>There is no discussion in the plan on how the monitoring data will be reviewed / analysed for trends to identify if site activities are having an adverse effect on groundwater quality</li> <li>The plan does not detail any contingency measures and management options should monitoring of groundwater quality indicate the development has had or is having an adverse effect on groundwater quality</li> <li>Evidence of consultation with EPA (formerly Department of Environment and Climate (DEC)) and NSW Office of Water (formerly DNR) was not sighted by the auditors. The GMP should include discussion of the consultation undertaken with the relevant agencies. For transparency the consultation could be included as an Appendix</li> <li>The plan does not detail requirements for reporting</li> </ul>	See Rec 01	Refer Rec 01
Air Quality Observation 8.5	2018 IEA REC 03	Review the location of the stack sampling points for adequacy.	Get AMG to review during annual testing	CWR Prod. Engineer / Complete. Review undertaken by AMG.

Source	#	Recommendation / Opportunity for Improvement	Action	Who / When
Air Quality Management Plan	2018 IEA REC 04	The existing AQMP needs to be updated to reflect the ongoing improvements and changes to the monitoring and management of air pollutants from the site since it was prepared in 2007.  This update should include a schedule for regular updates of the plan following any major modification to any of the air pollution control equipment or infrastructure, or a period of time (whichever occurs first).	See Rec 01	See Rec 01
Site Observation 5.11	2018 IEA OFI 01	Review the waste oil IBC storage arrangement to ensure the bunded pallet does not overhang the perimeter bunding.	Have maintenance modify frame	CWR Prod. Engineer / Complete.
Site Observation 5.15	2018 IEA OFI 02	Review the Sodium hydroxide sheeting to ensure it does not result in potential spills exiting the bunded area.	Have maintenance modify sheeting	CWR Prod. Engineer / Complete.
Site Observation 5.24	2018 IEA OFI 03	Consider removing the dumped waste inherited from the previous owners located at the back of the property near the former dye and finishing warehouse. During this process separate the waste identified for recycling where possible.	Cleanaway will investigate by obtaining quotes.	CWY Property In process.
Incident Management	2018 IEA OFI 04	Improve the categorisation of environmental incidents within the Vault to facilitate easier review and trend analysis of environmental incidents. Consider creating an incident category for "Environment" and provide guidance for how to categorise the incident type.	Review Vault entry classifications. Toolbox site employees on environmental incident types.	CWR Prod. Engineer / Complete. The 'Vault' incident management system has a 'drop-down' for Environmental incidents.

**TABLE E-2: SUMMARY OF NON-COMPLIANCES AGAINST PROJECT APPROVAL 05\_0037**

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
1	<p>The proponent shall carry out the project generally in accordance with the:</p> <p>(a) EAR as amended by the preferred project report (<i>Resource Recovery and Recycling Facility, Rutherford – Preferred Project Report</i>) prepared by Parsons Brinckerhoff Australia Pty Ltd, dated May 2006</p> <p>(b) statement of commitments, prepared by Parsons Brinckerhoff Australia Pty Ltd, and dated 19 May 2006; and</p> <p>(c) Modification application titled Environmental Assessment for Transpacific Refiners, Modifications to Existing Development prepared by Transpacific Industries Pty Ltd., dated 12 April 2007;</p> <p>(d) Modification application titled Streamlining the Project Approval for the Construction and Operation of a Resource Recovery and Recycling Facility prepared by Transpacific Industries Pty Ltd and dated 7 July 2011;</p> <p>(e) MOD 4;</p> <p>(f) MOD 5; and</p> <p>Conditions of this approval.</p>	<p>a. During the site inspection the Site was observed to be generally operating in accordance with the EAR as amended by the Preferred Project Report however the following activities as approved under 05_0037 were not being undertaken:</p> <ul style="list-style-type: none"> <li>- A truck wash bay and transport vehicle depot with ancillary wastewater recycling plant</li> <li>- An industrial cleaning depot and environmental recovery services depot.</li> </ul> <p>It is noted that in Modification Application dated 7 July 2011 the Site identified that these facilities were not installed and are no longer required.</p> <p>b. The auditors completed a high level review of the Statement of Commitments (SOC) and found the Site is operating in general accordance with them. The SOC includes a number of requirements which relate to the original project which are no longer relevant under the Preferred Project. The Site currently conducts a review against the SOC in the Annual Environmental Management Report (AEMR).</p> <p>c. MOD 1 approved the continued use of infrastructure not previously approved in the original project approval.</p> <p>d. Under the Modification Application dated 7.07.11 the Site requested streamlining of the monitoring requirements within the Project Approval with the EPL. The Site has generally applied the requirements to undertake environmental monitoring in accordance with this Modification. Monitoring requirements have been assessed against the CoA and EPL.</p> <p>e. MOD 4 granted approval for the replacement of a stack at the Site. The stack had been replaced at the time of the audit. The Site provided drawings of the stack which identified that the stack was 25 m in height as per the Modification Application.</p> <p>f. At the time of the audit the works proposed under MOD 5 had not commenced.</p> <p>g. The conditions of this approval have been assessed below.</p> <p>The Site has operated in general accordance with the activities described in the environmental assessments discussed above. This condition has been assessed as non-compliant as the Site has not operated in accordance with all the requirements included within this approval.</p>	Noted.	
2.6	The Proponent shall design, operate and maintain the project in a manner that would achieve emissions compliance with the EPL. The Proponent must advise	Refer to assessment of compliance with EPL air quality criteria. Stack testing records show compliance with EPL conditions since 2013.	Noted.	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
	the Department of any variations to the EPL as approved by EPA.	Prior to 2014 there were a number of non-compliances and on this basis this condition has been assessed as non-compliant. It is noted that Cleanaway has implemented a number of improvements which have resulted in improved air quality since this time and therefore no further recommendations are considered necessary.		
2.27	<p>To enforce the nominated B-Double route, as conditioned in condition 2.26, the Proponent shall implement a Transport Code of Conduct for the project.</p> <p>The Applicant shall not commence operations until the Secretary has approved the Transport Code of Conduct. The Code shall be incorporated into the Operational Environmental Management Plan for the development (refer to condition 3.5 and condition 3.6 of this consent).</p>	<p>The 2008 IEA identified that the Transport Code of Conduct was submitted to the Secretary in a letter dated 26.09.2006. Approval from the Secretary was not sighted.</p> <p>The 2008 IEA reviewed the content of the Transport Code therefore a detailed review of the Code has not been assessed as part of this audit.</p> <p>Evidence of implementation of the Transport Code of Conduct was not available for review in this 2018 IEA.</p> <p>The Transport Code of Conduct is referred to in Section 4.2 of the OEMP however the Code has not been attached or repeated within the OEMP document.</p> <p>This condition has been assessed as technically non-compliant as the Site was not able to provide evidence of approval of the Transport Code of Conduct by the Secretary and evidence that it was implemented during the audit period. It is noted however that the B-Double access route is no longer restricted since the upgrade of the New England Highway and Kyle Street intersection upgrade in 2015.</p> <p><b>2018 IEA REC 06</b></p> <p>Update the OEMP to discuss the relevance of the Transport Code of Conduct.</p>	<p>Revised OEMP will address the relevance of the Transport Code of Conduct. The revised document will be discussed and approved by the DoP.</p> <p>RMS to be consulted.</p>	As per Rec 01
2.34	<p>Prior to the commencement of construction work at the site, the Proponent shall ensure that all asbestos-containing materials, including friable asbestos particles within soil, are identified, treated and/or removed to ensure no long-term impact on human health and safety for personal located at the site and neighbouring properties.</p> <p><i>Note: The Proponent is required to comply with the statutory requirements of the Occupational Health and Safety Regulation 2001 to manage risks to human health as a</i></p>	<p>The 2008 IEA assessed this condition as non-complaint on the basis that whilst an asbestos survey had been undertaken and asbestos identified, the treatment and / or removal had not been completed prior to construction. It noted that Cleanaway was in the process of commissioning a qualified contractor to remove the asbestos at the time.</p> <p>The auditors sighted a hard copy Asbestos Register which included a number of asbestos clearance certificates for asbestos removed during the audit period. It was reported that this register related to the legacy issues identified during the original survey.</p> <p>Site reported that the asbestos remaining on site has been treated to ensure no long-term impact on human health and safety for personal located at the site and neighbouring properties.</p> <p>The Asbestos Register does not include comments of treatment or removal of all identified asbestos and therefore the auditors could not verify this condition.</p> <p>In addition to the above register, the site maintains another Asbestos Register for newly identified asbestos (post original survey). The TPR Asbestos Register sighted by the auditors had items last added to the register in January 2011. This register does not indicate how the identified asbestos would be managed.</p>	<p>Consolidate the asbestos register and update the Asbestos Management Plan (including 5 year review)</p> <p>Include 5 yearly review into scheduling plan.</p>	Hydro HSBP / Completed.



Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
	<i>result of handling, treatment and removal of asbestos at the site.</i>	<p>In accordance with the <i>Work health and Safety Regulation 2017</i> (which replaced the <i>Occupational Health and Safety Regulation 2001</i>), the Asbestos Management Plan and Asbestos Register is required to be reviewed every five years as a minimum.</p> <p>A full assessment of compliance with the <i>Work health and Safety Regulation</i> was not undertaken as part of this audit.</p> <p><b>2018 IEA REC 07</b></p> <p>Consolidate the two Asbestos Registers into one Register which clearly documents what asbestos is present on site and how it is treated or managed to prevent human health impacts. Ensure that the Asbestos Management Plan and Asbestos Register is maintained and reviewed as a minimum every five years in accordance with the Work Health and Safety Regulations.</p>		
2.36	The Proponent shall ensure that any demolition waste generated as a result of MOD 4 should be classified in accordance with the EPA's waste classification guidelines and disposed of to (or recycled at) an appropriately licenced facility.	<p>Comprehensive demolition waste classification and disposal records were not available for review. It was reported that the demolition and construction contractors were responsible for removal of waste (sighted contract scope document). It was reported that waste generated from these activities would have comprised of steel, concrete and clean fill. A letter was reviewed from Interactive Environmental Solutions dated 5.02.07 stating that it reviewed a soil assessment provided by Cleanaway and the results indicate the extracted soil may be used for clean fill. The soil assessment report was not reviewed by the auditors. On the basis that evidence of disposal or recycling of waste generated as a result of MOD 4 was not available, this Condition has been assessed non-compliant. It is noted however that this was difficult given the time lapse since this work was completed and this audit.</p> <p>Whilst not a requirement, it is considered best practice to maintain a waste register to help demonstrate compliance with regulatory requirements relating to waste disposal. Key items to document within the register include the waste type, quantity, classification, date removed from site, transporting company (and licence details) and disposal / recycling facility (and licence details).</p> <p><b>2018 IEA OFI 09</b></p> <p>Maintain a waste register for waste removed from site to help demonstrate compliance with regulatory requirements relating to waste disposal.</p>	OEMP to include Waste Register Template for site to maintain	As per Rec 01
3.2	Air quality monitoring will be undertaken in strict accordance with the requirements set out in the EPL covering the operation of the facility and the Rutherford Resource Recovery and Recycling Facility Air Quality Management Plan (AQMP) prepared by Pacific Air and Environment (PAE) dated 20 March 2007.	<p>Refer to Condition M2.2 of EPL for detailed assessment of monitoring requirements.</p> <p>This condition was assessed as non-compliant based on non-compliance with the required sampling frequency in 2009. Since that time the Site has complied with the monitoring requirements and therefore no recommendations are made.</p> <p>Implementation of the AQMP is discussed under Condition 3.6(a).</p>	Noted.	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
3.5	<p>Prior to the commencement of operations, the Proponent shall prepare (and following approval implement) an <b>Operation Environmental Management Plan (OEMP)</b> for the project, in consultation with the EPA, DNR, and Council), and to the satisfaction of the Secretary.</p> <p>Operations shall not commence until the Secretary has approved the OEMP. Upon receipt of the Secretary's approval, the Proponent shall supply a copy of the OEMP to the EPA and Council as soon as practicable.</p>	<p><u>Preparation</u></p> <p>An Operational Environmental Management Plan (OEMP) was prepared in 2007 to address the requirements of this Condition. The 2008 IEA assessed the consultation and approval process of the OEMP.</p> <p>The OEMP has not been updated since this time and contains out of date information. For example:</p> <ul style="list-style-type: none"> <li>- It does not include current statutory and other obligations. The Project Approval has been modified and the EPL varied a number of times since 2007. The OEMP does not clearly list these approvals and licences or others including the Trade Waste Agreement or Dangerous Goods Notification.</li> <li>- The Compliance Management Statutory Register (Appendix 2) is out of date.</li> <li>- The description of the Roles and Responsibilities does not include the Environmental Representative.</li> <li>- The performance measures require reviewing to ensure they reflect current practices and requirements</li> </ul> <p>Details of landscaping undertaken on site are not contained within the OEMP but outlined in the CEMP and Vegetation Management Plan (VMP), both of which have not been sighted.</p> <ul style="list-style-type: none"> <li>- Details of contingency measures for adverse environmental impacts are not outlined in the OEMP, but have been outlined in the Groundwater Management Plan, Air Quality Management Plan and Site Emergency Management Plan.</li> <li>- The Environmental Policy was reviewed on 1 May 2018. The OEMP includes a superseded version of the Policy.</li> </ul> <p>On the basis that the OEMP has not been maintained to reflect current operations and statutory requirements this condition has been assessed as non-compliant.</p> <p><u>Implementation</u></p> <p>Aspects of the OEMP were being implemented. For example, monthly inspections were being undertaken, Generally these were reported using the Workplace Inspection Form, however more recently notes / actions from the inspections were circulated via email.</p> <p>Annual Performance Reporting was being conducted (refer CoA 5.2).</p> <p>The format of the OEMP is not very user friendly and easy to implement. It is recommended that during the revision of the OEMP, thought is given to making the plan easier to implement.</p> <p><b>2018 IEA REC 08</b></p> <p>Update the OEMP to reflect current site operations, statutory requirements and management practices and provide to the Secretary for approval and the relevant agencies for their information.</p>	<p>Revise OEMP as per Rec 01</p> <p>Develop/review workplace inspection form with respect to updated OEMP</p>	As per Rec 01

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<p>Refer also to the review of the adequacy of the OEMP in the main report.</p> <p><b>2018 IEA REC 09</b></p> <p>Re-commence using the Workplace Inspection Form to document site inspections as they provide evidence of items that were checked and found to be ok as well as noting issues.</p>		
3.6	<p>The OEMP for the project shall include the following Management Plans:</p> <ul style="list-style-type: none"> <li>- Air Quality Management Plan</li> <li>- Transport Code of Conduct</li> <li>- Groundwater Management Plan</li> </ul>	<p>(a) An Air Quality Management Plan (AQMP) was prepared in 2007 to address the requirements of this condition. The AQMP has not been revised since this time and does not reflect current operations and controls. On this basis this requirement is considered non-compliant. Refer also to review of adequacy of management plans in main section of the report.</p> <p>(b) A Transport Code of Conduct was prepared in 2007.</p> <p>The 2017 AEMR states that the Driver Code of Conduct is no longer in use for the restriction of routes due to the intersection upgrade that allows access for B-doubles.</p> <p>(c) Site prepared a Groundwater Management Plan (GMP) to address the requirements of this condition in 2006. The GMP was most recently updated on 15.08.17.</p> <p>The GMP states that it has been prepared to meet the requirements of the EPL. The auditors have reviewed the 2017 GMP against the requirements of this condition and found;</p> <ul style="list-style-type: none"> <li>i) Details of baseline groundwater quality prior to commencement of construction have not been provided.</li> <li>ii) Groundwater assessment criteria were provided, including EPL monitoring requirements.</li> <li>iii) Groundwater monitoring program has been provided and included monitoring parameters frequency and locations.</li> <li>iv) Details of contingency measures and mitigation options have not been included.</li> <li>v) Evidence of consultation with EPA (formerly DEC) and NSW Office of Water (formerly DNR) was not sighted by the auditors.</li> </ul> <p>This condition has been assessed as non-compliant as the 2017 GMP does not include baseline monitoring data and contingency measures and mitigation options should monitoring of groundwater indicate that Cleanaway has exceeded the assessment criteria or is having an adverse impact on groundwater quality.</p> <p>Refer to recommendations relating to the adequacy of the AQMP in the main report</p> <p>Refer to recommendations relating to the adequacy of the GMP in the main report.</p>	Noted.	
3.7	Within three months of the completion of each Independent Environmental	The latest version of the OEMP (Rev 3) is dated 11.05.07 indicating that the OEMP was not updated following the 2008 IEA.	Noted.	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
	Audit (see condition 4.4), the Proponent shall review and update the Operation Environmental Management Plan (OEMP) for the project, in consultation with the EPA and Council, and to the satisfaction of the Secretary.	Refer <b>2018 IEA REC 08</b>		
4.3	If the Report identifies any non-compliance with the air quality limits imposed under this approval, an EPL for the development and/or does not reflect the conclusions made within the Environmental Assessment for Transpacific Refiners, Modifications to Existing Development, dated 12 April 2007, the Proponent shall detail what additional measures would be implemented to ensure compliance, clearly indicating who would implement these measures, when these measures would be implemented, and how the effectiveness of these measures would be measured and reported to the Secretary and the EPA. The Proponent shall comply with all reasonable requirements of the Secretary or the EPA in respect to the findings presented in the Report. Any such works shall be completed within such time as the Secretary or the EPA may require.	<p>Refer to CoA 4.2. The Operational Air and Noise Validation Report was submitted to EPA and the PRP subsequently removed from the EPL suggesting EPA satisfaction with the report and any follow up actions.</p> <p>Evidence that the Operational Air and Noise Validation Report was submitted to the DPE was not available. On the basis that it could not be verified that the report was submitted to the DPE, this condition has been assessed as non-compliant. It is noted however that this was difficult given the time lapse since this report was completed and this audit.</p> <p><b>2018 IEA REC 10</b></p> <p>Contact the DPE and request a copy of evidence that the Operational Air and Noise Validation report was provided to them for Cleanaway's record. Should the DPE not have evidence, submit the report to the DPE for its information.</p>	Follow up with DoP	Completed.
5.2	The Proponent shall submit an Annual Environmental Management Report (AEMR) for the project to the OEH, Council, and the Department. The AEMR shall be submitted annually on the 22 December, unless otherwise approved by the Department, and include the information required under this condition.	<p>Annual Environmental Management Reports (AEMRs) were available for the periods 2008/2009, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2016/2017.</p> <p>The 2010/2011 AEMR states that the reporting period for 2010/2011 was extended "<i>due to the change in the EPL and is in line with the DPE Notice of Modification dated 18.10.11</i>".</p> <p>Acknowledgement of submission of the AEMRs to the DPE has been provided for the following years:</p> <ul style="list-style-type: none"> <li>2012-2013, DPE letter dated 25.02.14 noted that they were generally satisfied with its form, content and presentation</li> </ul>	<p>Rec 11 - Develop Site authority correspondence folder.</p> <p>Cc system of correspondence to be implemented.</p> <p>To be detailed in OEMP documentation section.</p>	<p>Environment team/site management</p> <p>Ongoing</p> <p>This AEMR.</p>

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<ul style="list-style-type: none"> <li>2015-2016, DPE letter dated 15.05.17 – DPE requested the AEMR be resubmitted with additional information by 30.06.17</li> <li>2016-2017, DPE acknowledgment email dated 22.12.17</li> <li>Automated acknowledgment of receipt by EPA of 2016-17 AEMR dated 22.12.17</li> </ul> <p>The auditors sighted evidence that the 2016-17 AEMR was provided to DPE, EPA and Maitland Council, however, could not verify that all AEMRs for the 10 year audit period had been submitted to the relevant authorities within the required timeframe and on this basis, this condition has been assessed as non-compliant.</p> <p>AEMRs generally included the details required. However, the following are noted:</p> <ul style="list-style-type: none"> <li>A copy of the Complaints Register for the preceding 12 month period was included in the 2009 AEMR only. AEMRs from 2010 – 2017 reported nil complaints. The Site Odour Complaints Register 2008-2015 indicates the following complaints were received via the EPA for the period 2010-2017: <ul style="list-style-type: none"> <li>2010: 1 complaint</li> <li>2012: 1 complaint</li> <li>2014: 13 complaints</li> <li>2015: 4 complaints</li> </ul> </li> </ul> <p>In each instance the following response was provided in the register: “letter emailed with plant details and weather data for the date and time of the event”. Selections of these letters to the EPA were sighted by the auditors. Cleanaway explained that these were complaints received by the EPA for the Rutherford Industrial Estate that the EPA was following up. Following provision of the required information to the EPA there was no further requests or follow up from the EPA. Cleanaway considers that these complaints were not related to its activities. It was reported that no complaints were received directly by the site.</p> <ul style="list-style-type: none"> <li>For transparency it is recommended that the AEMR include discussion of complaints / enquires received from the EPA for Cleanaway to investigate and the outcome of this investigation.</li> </ul> <p>A Production Summary is provided in Table 3. This lists the ‘approved limit’ as 40,000 tpa and includes the volume of ‘product: waste lubricant oils’. It is unclear whether the reported figure is the base oil produced during the year or the waste oil processed. Given the limits specified by CoA 1.4 are to ‘not process more than 40,000 tonnes of waste lubricant oils a year’, Cleanaway should ensure it is reporting the volume of waste oil processed rather than base oil produced and make it clearer in the AEMR. It is understood that Cleanaway typically achieves a 97% yield and so these figures would not differ significantly.</p> <p>Air quality monitoring data is summarised in Tables 7-11. These include the EPL limit and mean of sample for each pollutant. As monitoring occurs yearly the mean is actually the result of the yearly testing. This could be clarified in the tables.</p>	OFI 10, 11 & 12 to be addressed in AEMR	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<p>Groundwater monitoring results for the year are summarised in Table 14. Section 7.3.2 provides a very brief discussion of trends. This does not discuss trends over the life of the development to date. No graphs including historical monitoring are provided (as they are for air quality monitoring). It is recommended that further analysis of trends in groundwater monitoring data since Cleanaway commenced operations is undertaken and provided in the AEMR. This is particularly important given the groundwater contamination at the site from historical land-use.</p> <p><b>2018 IEA REC 11</b></p> <p>Ensure evidence of submission of AEMRs to the relevant agencies and any comments received are maintained into the future.</p> <p><b>2018 IEA OFI 10</b></p> <p>Include further analysis of trends in the groundwater monitoring data over the life of the development to date within the AEMR.</p> <p><b>2018 IEA OFI 11</b></p> <p>Ensure the "Production Summary" provided in the AEMR reports the volume of waste oil processed per year to enable comparison against the limit specified by CoA 1.4.</p> <p><b>2018 IEA OFI 12</b></p> <p>Include a discussion of complaints / enquiries forwarded by the EPA for investigation within the AEMR.</p>		
6.1	Subject to confidentiality, the Proponent shall make all documents required under this approval publicly available.	<p>This approval required the following documents to be prepared:</p> <ul style="list-style-type: none"> <li>Condition 2.17 – Soil Contamination Validation Report prior to construction</li> <li>Condition 2.18 – Groundwater Contamination Assessment</li> <li>Condition 2.21A – Construction Safety Study</li> <li>Condition 3.5 – Operational Environmental Management Plan, including an Air Quality Management Plan, Groundwater Management Plan and Transport Code of Conduct</li> <li>Condition 4.2 – Operational Air and Noise Validation Report</li> <li>Condition 4.4 – Independent Environment Audit 2008</li> <li>Condition 5.2 – Annual Environmental Management Reports</li> </ul> <p>It was not easy to navigate the Cleanaway website to find the site specific environmental information. After being shown where they were located, the following reports were accessed via the Cleanaway website:</p> <ul style="list-style-type: none"> <li>April 2016 Ground Water Monitoring</li> <li>February 2016 Rutherford Air Monitoring</li> <li>Annual Environmental Report 2017</li> <li>Rutherford H2 Plant OEMP</li> </ul>	Refer suggested improvement to website access to the Cleanaway website development team	Complete. NSW environment document tab on the Cleanaway corporate website.

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<ul style="list-style-type: none"> <li>Pollution Incident Response Management Plan</li> <li>2018 Environmental Policy</li> <li>Health and Safety Policy</li> </ul> <p>This condition is considered not complaint as a number of documents required under this condition, as listed above, are not publicly available.</p> <p><b>2018 IEA REC 12</b></p> <p>Ensure all of the required documents are publicly available on the Cleanaway website. In particular:</p> <ul style="list-style-type: none"> <li>Groundwater Management Plan</li> <li>Air Quality Management Plan</li> <li>Historic AEMRs (could seek guidance from the DPE regarding how far back to go)</li> <li>Independent Environmental Audits</li> <li>Operational Air and Noise Validation Report</li> </ul> <p><b>2018 IEA OFI 13</b></p> <p>Consider making changes to the website to make it easier to find the required information. This could include grouping the information by site and having clearer headings for the environmental information.</p>		
6.2	<p>Prior to the commencement of construction, the Proponent shall establish community complaints system to the satisfaction of the Secretary. This system must include:</p> <ol style="list-style-type: none"> <li>A 24-hour telephone number on which complaints about operations on the site may be registered;</li> <li>A postal address to which written complaints may be sent; and</li> <li>An email address to which electronic complaints may be transmitted, should the Proponent have email capabilities.</li> <li>The telephone number, the postal address and the email address shall be advertised in a newspaper</li> </ol>	<p>The 2008 IEA verified that the community complaints system was established to the satisfaction of the DPE prior to the commencement of construction.</p> <p>This audit assessed the ongoing operation of the complaints system.</p> <p>A sign was located at the site entrance displaying the complaints contact information including an 1800 telephone number, postal address and email address.</p> <p>The complaints telephone number was tested on the day of the audit and was found to be disconnected. It was reported that the telephone number was functioning in the months prior to the audit however it could not be determined how long the number had been disconnected. Cleanaway commenced investigation of the issue and in the meantime temporarily modified the sign at the entrance to include the company-wide community hotline that is advertised on Cleanaway's website.</p> <p>On the basis that the displayed telephone number was not operational at the time of the audit and for an unknown period prior to the audit, this condition has been assessed as non-compliant. It is noted however that should a complainant wished to have registered a complaint during this time; they could have done so via email or via the community hotline advertised on Cleanaway's website and that this would have been directed to Cleanaway Rutherford management for investigation.</p> <p><b>2018 IEA REC 13</b></p> <p>Ensure a valid 24-hour telephone number is displayed at the entrance to the site</p>	<p>Number on the front gate is Cleanaway site hotline.</p> <p>Update OEMP to reflect this contact number</p>	<p>Included in Rec 01.</p>

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
	circulating within the locality on at least one occasion prior to the commencement of construction of each stage of the development. These details must also be displayed on a sign near the entrance to the site, in a position that is clearly visible to the public and on the Proponent's internet site, should one exist. The telephone number, post address and email address must be maintained throughout the life of the development.			



TABLE E-3: SUMMARY OF NON-COMPLIANCES AGAINST EPL 12555

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
L3.2	Air concentration limits	<p>Over the audit period (11 June 2008 to 11 September 2018) EPL 12555 has varied a number of times changing location of monitoring points, the pollutants monitored/concentration limits and the frequency of monitoring. Variations have often been done following completion of the Pollution Reduction Programs, for example preparation and submission of the following reports:</p> <ul style="list-style-type: none"> <li>Operational Air and Noise Validation Report, dated 10 December 2008</li> <li>Comprehensive Odour Audit Report, dated 10 November 2008</li> <li>Phase 1 and 2 Environmental Site Assessment, dated 8 July 2008</li> </ul> <p>A review of the EPL Annual Returns indicated that the Site had a number of exceedances of EPL Conditions L3.1, L3.3 (now L3.2), M2.1 (now M2.2). These exceedances were related predominately to exceedance of pollutant limits at Discharge Point 19.</p> <p>The Site has reported no exceedance of EPL monitoring limits since September 2013.</p> <p>The auditors reviewed the annual source emissions monitoring reports prepared by Assured Monitoring Group (AMG) for 2017, 2016, 2015 and noted the following:</p> <ul style="list-style-type: none"> <li>The annual monitoring for 2018 had not been undertaken at the time of the audit.</li> <li>2017 Annual Monitoring was conducted from the 27.11.17 to 30.11.17. No exceedances of the concentration limits in this condition were identified.</li> <li>2016 Annual Monitoring was conducted from the 5.12.16 to 9.12.16. No exceedances of the concentration limits in this condition were identified.</li> <li>2016 Annual Monitoring was conducted from the 5.12.16 to 9.12.16. No exceedances of the concentration limits in this condition were identified.</li> <li>In 2015 the Site was required under the EPL to conduct quarterly sampling of air concentration limits. Cleanaway provided the auditors a copy of each quarterly report for 2015. For the purpose of this audit only the annual report for 2015 has been reviewed by the auditors (not the quarterly reports) as this reflects the current EPL condition. 2015 Annual Monitoring was conducted from the 3.11.15 to 6.11.15. No exceedances of the concentration limits in this condition were identified.</li> </ul> <p>This condition has been assessed as non-compliant based on exceedances for concentration limits between 2008 and 2013. It is noted that in recent years the Site has not recorded any exceedances of the EPL concentration limits demonstrating that measures implemented since 2008 have been effective in improving air quality. On this basis no recommendations are considered necessary.</p>	Noted.	
M1.3	Requirement to maintain records of any samples collection for this licence.	<u>Groundwater monitoring</u>	Refer to monitoring requirements Refer to	Completed.

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<p>The auditors reviewed the Groundwater Field Parameters field sheet used when sampling in 2015 and 2016. The field sheet included the date, the sample point and the initials of the person who took the sample. The field sheet did not record the time the sample was collected.</p> <p>The Auditors were also provided the groundwater sample data sheets (excel) for the 2016 and 2017 groundwater sampling. These data sheets included the date, sample time, sample location/point and name of person who collected the sample as required by this condition. Records of the information required under this condition should continue to be recorded as per the 2016 and 2017 groundwater sample data sheets.</p> <p><u>Air quality monitoring</u></p> <p>The auditors reviewed the Source Emission Monitoring Report 2017 which detailed the date on which samples were taken, the run start and run stop times and the sample location. The name of the person who collected the sample was not included and on this basis, this condition has been assessed as non-compliant.</p> <p><b>2018 IEA REC 14</b> Update Air Emissions Monitoring spreadsheet to include the name of the person who collected the samples.</p>	monitoring consultant	
M2.2	Air monitoring requirements including pollutant, units of measure, frequency and sampling method.	<p>As discussed in EPL Condition L3.2, a review of the EPL Annual Returns identified that the Site has had a number of exceedances of EPL Conditions including a non-compliance with EPL Condition M2.1 (now M2.2). The non-compliance was due to sampling of the following monitoring points not being undertaken in July 2008, DP1, DP2, DP3, DP5, DP18, DP19, DP20, as sampling was required quarterly at that time.</p> <p>The auditors reviewed the annual source emissions monitoring reports prepared by Assured Monitoring Group (AMG) for 2015, 2016, 2017 and noted the following (the annual monitoring for 2018 had not been undertaken at the time of the audit).</p> <ul style="list-style-type: none"> <li>2017 Annual Monitoring was conducted from the 27.11.17 to 30.11.17. AMG stated that the testing was conducted in accordance with NSW standard included in this condition and the test methods directly relate to the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales' (DECC, 2007).</li> <li>2016 Annual Monitoring was conducted from the 5.12.16 to 9.12.16. AMG stated that the testing was conducted in accordance with NSW standard included in this condition and the test methods directly relate to the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales' (DECC, 2007).</li> <li>In 2015 the Site was required under the EPL to conduct quarterly sampling of air concentration limits. Cleanaway provided the auditors a copy of each quarterly report for 2015. For the purpose of this audit only the annual report for 2015 was reviewed (not the quarterly reports) as this reflects the current EPL condition. 2015 Annual Monitoring was conducted from the 3.11.15 to 6.11.15. AMG stated that the testing was conducted in accordance with NSW standard included in this condition and the test methods directly relate to the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales' (DECC, 2007).</li> </ul> <p>This condition has been assessed as non-compliant due to the non-compliance with sampling frequency in 2009. It is noted that the Site has complied with the monitoring requirements since that time and therefore no recommendations are made.</p>	Noted.	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
M5.1	Weather monitoring requirements including parameter, units of measure, frequency, averaging period and sampling method.	<p>The Site has a weather station on site. The weather station operates continuously and is monitored by the Control Room. The site also has a windsock located on the top flash point correction column.</p> <p>The Site provided weather calibration data for air temperature dated 22.06.17. The auditors sighted the planned maintenance excel workbook and noted that the weather station was scheduled for annual calibration. A Field Calibration Report by Envirodata was sighted dated 30.11.17.</p> <p>Based on a review of available documents the weather station was reported to the EPA as not operational during the following dates:</p> <ul style="list-style-type: none"> <li>25.06.14 to 3.07.14 – letter notifying the EPA of repair sighted by the auditors dated 4.07.14</li> <li>Unknown period in October 2014 - letter notifying the EPA of repair sighted by the auditors dated 22.10.14</li> </ul> <p>The above outages were notified to the EPA however were not reported in the Annual Return as non-compliances with the requirement for continuous monitoring.</p> <p>Raw monitoring data was provided by the Site for the auditors to review for the last three years. The weather data provided included 15 min incremental wind speed (km/h) and wind direction (degrees). The data provided included a number of gaps. It was explained that this is due to the process of downloading the data (not the operation of the weather station itself). The data downloaded was dependent on which operator downloaded the data. Cleanaway proposed to consolidate all databases and create one in a central location accessible to all employees for future data gathering. This is supported by the auditors.</p> <p><b>2018 IEA OFI 21</b> Consolidate weather station databases to facilitate future data gathering.</p> <p><b>2018 IEA OFI 22</b> Ensure future outages that result in disruptions to the weather station are reported as a non-compliance in the Annual Return with the requirement for continuous monitoring.</p>	Consolidate Weather station data and update SOP with communal file-path for saving. Update Weather station SOP with note on communication of outages and toolbox updated SOP	Completed.
M7.1	Operation of a telephone complaints line	Refer to CoA 6.2.	As above item 6.2	
M7.2	Notify the public of the telephone complaints line	Refer to CoA 6.2.	As above item 6.2	
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	<p>The auditors reviewed the EPA EPL register online and identified that the following Annual Returns were submitted later than 60 days after the end of the reporting period:</p> <ul style="list-style-type: none"> <li>22.05.09 – 21.05.10 – Submitted on 23.07.10</li> <li>22.05.10 – 28.09.10 – Submitted on 29.11.10</li> <li>29.09.10 – 28.09.11 – Submitted on 02.12.11</li> <li>29.09.14 – 28.09.15 – Submitted on 01.12.15</li> </ul> <p>In addition, the following is noted:</p> <ul style="list-style-type: none"> <li>the Annual Return for licence period 22.05.08 to 21.05.09 was first submitted on 20.07.09 (within the 60 days). The Annual Return was then re-submitted on 30.10.09.</li> <li>the Annual Return for reporting period 22.05.09 – 21.05.10 was re-submitted in a letter dated 22.12.11, following instruction from OEH, letter dated 16.12.11 (not sighted by the auditors). The Annual Return was resubmitted due to an error in reporting of the annual load limit for Hydrogen sulphide (L2.2).</li> </ul>	Noted. Due date for AEMR now in RESURE scheduling database	

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
		<p>On the basis that the Annual Returns have not always been submitted by the required date, this Condition has been assessed as non-compliant.</p> <p>It is noted that Cleanaway has complied with this Condition since 2016.</p> <p><b>2018 IEA REC 15</b></p> <p>Ensure all future Annual Returns are submitted to the EPA within 60 days of the end of the reporting period (by the 27 November each year).</p>		
R.10	<p>The licensee must submit the following information with the Annual Return:</p> <p>a) A comparison of data obtained from emissions monitoring to the emission limits in this licence and other relevant air quality criteria;</p> <p>b) Recommendations for the continuation or discontinuation of monitoring for pollutants which have not been detected or detected consistently at levels significantly below the licence and/or regulatory limits.</p>	<p>The Annual Returns were reviewed for each period against this condition. The following was identified:</p> <ul style="list-style-type: none"> <li>22.05.08 – 21.05.09 – a licence condition report R1.9.2 (now R1.10) was attached the EPL.</li> <li>22.05.09 – 21.05.10 - a licence condition report was not attached to this Annual Return.</li> <li>22.05.10 – 28.09.10 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.10 – 28.09.11 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.11 – 28.09.12 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.12 – 28.09.13 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.13 – 28.09.14 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.14 – 28.09.15 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.15 – 28.09.16 - a licence condition report was not attached to this Annual Return.</li> <li>29.09.16 – 28.09.17 - a licence condition report was not attached to this Annual Return.</li> </ul> <p>This condition has been assessed as non-compliant as the information required under this condition has not been submitted with the Annual Return since the 2008-2009 reporting period.</p> <p><b>2018 IEA REC 16</b></p> <p>Ensure the information required under EPL Condition R1.10 is submitted with the Annual Return each year.</p>	Noted.	
R3.1	<p>Where an authorised officer of the EPA suspects on reasonable grounds that:</p> <p>a) where this licence applies to premises, an event has occurred at the premises; or</p>	<p>The Site reported that the following written reports were requested by the EPA during the audit period:</p> <p>29.04.09 – the EPA provided a Notice to Provide Information and/or records under Section 191 of the POEO Act (Notice number 1100030) in regard to exceedance of limits under EPL Condition L3.1. The auditors sighted a number of emails dated 12.05.09 to 08.07.09 identifying that the Site provided a response to this Notice and that it had been received by the EPA.</p> <ul style="list-style-type: none"> <li>12.07.18 - The EPA requested a report into PFAS contamination. Cleanaway is in the process of commissioning this report.</li> </ul> <p>From review of various documents with partial information it is the auditors understanding that the Site received a number of requests for written reports from the EPA over the audit period. However due to the extended time frame over which</p>	Include logging of EPA information request in OEMP revision	As per Rec 01

Reference	Condition Requirement Summary	Audit Finding and Recommendation	Action	Who / When
	<p>b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,</p> <p>and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.</p>	<p>this audit period covers, not all records of EPA written reports have been able to be reviewed or closed out by the auditors. On the basis that this could not be verified, this condition has been assessed as non-compliant.</p> <p><b>2018 IEA REC 17</b></p> <p>Improve tracking of requests by regulatory agencies. Consider logging in the 'Vault' system to facilitate investigation and response to requests and track dates of close out.</p>		

**TABLE E-4: SUMMARY OF OPPORTUNITIES FOR IMPROVEMENT NOT RELATING TO NON-COMPLIANCES**

Reference	OFI #	OFI	Action	Who / When
<b>Other</b>				
CoA 2.11	2018 IEA OFI 06	Formalise the process for reviewing and tracking flaring / process upsets to ensure they do not exceed 2% of process operating time per annum. This could include, SCADA enhancements, manual tracking of the rolling annual average of flaring, developing an SOP or Work Instruction to document calculations and include reporting against this requirement within the AEMR.	Update SCADA reporting Update Flare operation SOP to include annual flare tallying system	Complete.
CoA 2.15	2018 IEA OFI 07	Specify a sampling regime for assessing surface water quality against the objectives provided in Statement of Commitment 27A and implement.	Refer to GMP update	Complete. Refer item Rec 01
CoA 2.15	2018 IEA OFI 08	Recommence completion of the Monthly Workplace Inspection Form.	As above	As above.
CoA 2.20	2008 IEA REC 05	Engage an acoustic consultant to undertake noise monitoring to demonstrate compliance with the noise limits by current operations.	Engage consultant to undertake	In progress. Quotes sought for engagement by 1/12/2019
CoA 6.3	2018 IEA OFI 14	Update the Complaints Procedure (2006) to reflect that complaints are now managed and recorded using the Vault.	Update complaints procedure	Complete. Revised OEMP includes complaints procedure.
CoA 6.3	2018 IEA OFI 15	Include categories within the Vault for recording the means by which a complaint is made and the complainant's personal details.	Toolbox updated complaints procedure with information on how to record in Vault	Completed.
EPL 12555 Condition A2.1	2018 IEA OFI 16	Update the address in the next revision of the EPL.	Noted.	Noted.
EPL 12555 Condition L4.1	2018 IEA OFI 17	Seek clarification from the EPA whether the feed oil received on site for processing should be included within this condition of the EPL as J100.	Discuss with EPA	Complete. For the purposes of the EPL, the feed oil remains classified as a waste by NSW EPA.
EPL 12555 Condition O4.2	2018 IEA OFI 18	Consider removing the dumped waste inherited from the previous owners located at the back of the property near the former dye and finishing warehouse. During this process separate the waste identified for recycling where possible.	As above.	As above.
EPL 12555 Condition O4.3	2018 IEA OFI 19	Within the next EPL variation, update this condition to refer to the current Regulations.	Noted.	Noted.
EPL 12555 Condition O6.3	2018 IEA OFI 20	Include a requirement / KPI for tracking the period that emissions are visible from the flare to enable tracking of compliance with the requirement that there must be no visible emission from the flare exceeding 5 minutes in any 2 hour period.	Included in Flare Operation SOP revision	Complete.

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Reference	OFI #	OFI	Action	Who / When
EPL 12555 Condition R1.1	2018 IEA OFI 23	Review the requirements for publishing pollution monitoring data and whether the AEMR fulfils these requirements. In particular review the timing for publishing the data and where it is located on the website.	As above.	As above.
EPL 12555 Condition R1.9	2018 IEA OFI 24	Submit a variation to the EPL to remove this condition.	Noted.	Noted.

TABLE E-5: HAZARD AUDIT ACTIONS

Observation #	Description	Rec #	Recommendation	Action	Who/When
OBS # 1	Damage to upper portion of western bund wall and loss of seal at expansion joint. Cracking noted in bund floor slab, with evidence of previous repairs having been undertaken (cracks have been chased out and sealed at some locations, or over coated with a sealing membrane at others).	Rec - 1	Inspect all existing bund wall joints, repair as necessary to ensure liquid-tightness, and include inspection of bund wall joints as a specific item in plant maintenance planning.	Inspect condition and compile inspection report Rectify as required.	Complete.
OBS # 2	Evidence of regular repairs and maintenance to bunds could have been seen. Recent dry weather may have caused further movement in bunds. Visual inspection of perimeter bund wall found integrity issues with vertical wall joints. Incidence of tanks moving particularly STK-4. Evidence of regular repairs	Rec - 2	Repair existing cracks in joints. Instigate a regular inspection and repair program for all bunds	To be include to maintenance plan	Complete.
OBS # 3	Bottom of spill deflection sheeting for Sodium Hydroxide IBCs located at Depot 2A adjacent the western perimeter bund wall in the Fractionation Plant ends above the top surface of the process area perimeter bund, which makes it possible for spill to travel to the outside of the bund.	Rec - 3	Modify	As per OFI 02	Completed. Refer OFI 02
OBS # 4	Pails of water treatment chemicals stored adjacent the exterior of the southern wall of the Boiler Room are overhanging the edge of their portable bund.	Rec - 4	Centre pails on portable bund	Completed.	Completed.
OBS # 6	Control Room Window faces plant and is not wire-reinforced. Have hazardous event effect distances been determined and is window design consistent with them.	Rec - 5	Confirm if the window is adequate for the effects of possible accident scenarios in the plant area.	Review if glass is tempered, if not obtain quote for replacement	Completed. Glass is toughened/non-shatter.
OBS # 8	Bridge register includes when bridge was installed and when bridge was removed. Some items on the bridge register have been in place for an extended period which is beyond the intent of repair ASAP as per the procedure. One item (Bridge 5) has been in place since 10-12-2015	Rec - 6	Repair faults that have been bridge for extended periods or alternatively complete a plant modification to permanently assess and implement the change	Complete recommendation actions	Completed.
OBS # 9	Bridging procedure exists and requires items to be repaired ASAP. No definition on how long bridges can remain in place without review.	Rec - 7	Update bridging procedure stipulating how long a bridge can be in place before it needs to be reviewed before being extended.	Update bridging procedure	Completed.



Observation #	Description	Rec #	Recommendation	Action	Who/When
OBS # 10	Bridging procedure provides guidance on who needs to authorise the bridging of CIPS. A risk assessment is done to determine if the controls in place of the bridge adequately compensate for the reduction in the protection by bridging the protective system.	Rec - 8	When installing bridges risk assessments should refer to a Risk assessment of CIPS (e.g. LOPA, Calibrated Risk Assessment) as per AS/IEC 61511 to understand the effect of removing the CIPS	See OBS # 51	
OBS # 14	Displaced personnel heat protection guarding on "Oil Rundown" exchanger, EX-07, has created hot exposed surfaces and in other areas the guarding is touching or too close to the heat exchanger shell to be effective.	Rec - 9	Repair heat protection	Conduct temperature monitoring of Heat exchanger. Then risk assess and protect surfaces >65 degC	In progress.
OBS # 16	There are multiple sections of plant where the original insulation and solid aluminium cladding have been disturbed and not replaced "like for like". Potential to increase the risk for under insulation corrosion (CUI) or other contamination of insulation with potential hazardous consequences. Was advised the majority of pipes were not carbon steel and not susceptible to CUI.	Rec - 10	Repair lagging to prevent water ingress and possible CUI while reducing energy loss	Audit site lagging and develop maintenance program to rectify	In progress.
OBS # 18	Junction Box in rear of room is not independently supported - only supported from cables connected to it. Not good practice.	Rec - 11	Correct	To be programmed in an upcoming shutdown	Complete.
OBS # 19	Overhead Smoke Detector/Fire detector is not independently supported - cable-tied to cables in vicinity. Not good practice.	Rec - 12	Correct	To be programmed in an upcoming shutdown	Complete.
OBS # 20	A completed earth strapping system testing check sheet was provided. 4 additional items were manually added to the list. Document with no document or revision number.	Rec - 13	Document to be updated with additional locations and given a document number and revision number	Update site earthing documentation	Complete.
OBS # 21	Earth strapping system testing provided. 4 items presented with resistance of 0.6 Ohms or greater. No acceptance criteria shown for the tests	Rec - 14	Include acceptance criteria on test sheet. Investigate if further action is required for these values.	Review acceptance criteria and update site earthing documentation as necessary	Complete.
OBS # 22	Pressure vessel registration certificates available Item registration certificates available Regular inspections conducted and reported by qualified company Pressure vessel inspections available Material Data Registers available for modifications	Rec - 15	Documents are located in multiple areas. Recommend creating central location and system for filing statutory pressure vessel information	Centralise PV documentation	Completed.

Observation #	Description	Rec #	Recommendation	Action	Who/When
OBS # 23	It was cited that the pressure vessel inspector determines the basis for Boiler and pressure vessel inspection intervals.	Rec - 16	Either Cleanaway or the Cleanaway representative (pressure vessel inspected) to determine pressure vessels inspections intervals using the Hazard level (AS4343) and AS3788, Table 14.1 and inspection requirements with RBI API580	Implement	In progress. To be completed 6/12/2019
OBS # 24	Inspection of pipes has been completed based on velocity and all areas of the HGP.	Rec - 17	Prepare a documented risk based inspection plan to inspect pipework. Hazard level to be determined using AS4343. Hazard levels to be used to determine the inspection frequencies in accordance AS3788, Table 4.1, Section 14. Risk Based Inspections (RBI) to be determined in accordance with API580.	Implement risk based pressure piping inspection plan	In progress. To be completed 6/12/2019
OBS # 25	Major equipment (e.g. pump, control valves, instrumentation) are labelled. Some minor equipment (e.g. manual isolation) are labelled while others are not.	Rec - 18	Recommend labelling all minor equipment and pipe contents	Review site labelling, develop action plan and implement	In progress. To be completed 6/12/2019
OBS # 26	Non return valves can be critical items which can protect a system similar to pressure relief valves. It is not usually identified as a critical item	Rec - 19	Recommend reviewing critical non return valves in the process and include in periodic inspection. Refer to AS4343, AS3788 and API 580 for requirements in line with piping requirements	Identify critical non return valves and implement maintenance strategy	In progress. To be completed 6/12/2019
OBS # 28	A number of critical items are overdue and are being worked through	Rec - 20	Maintain all equipment as per their statutory requirements (including CIPS)	Noted.	Noted.
OBS # 31	Several access platforms observed as being non-compliant with relevant Australian Standards	Rec - 21	Review platforms throughout the site and undertake modifications to achieve code compliance as necessary and appropriate.	Site audit has been done in 2011 by IZZAT. Non compliances were risk assessed and rectifications or control measures put in place. Review Risk assessment from previous audit	Completed.
OBS # 32	Permanent lifting devices generally appear to have not been engineered and have no identification or capacity markings.	Rec - 22	Review permanent lifting devices throughout the site and undertake engineering reviews as necessary and appropriate to confirm structural adequacy for the intended purpose. All	Engage on call lifting to audit site lifting devices for adequacy	In progress. To be completed 6/12/2019

Observation #	Description	Rec #	Recommendation	Action	Who/When
			lifting devices should be recorded in a register.		
OBS # 36	A static line exists in the southern loading bay. This static line is no longer used and is no longer tested to requirements.	Rec - 23	Recommend removal or tagging out of service	Static line to be removed	Complete.
OBS # 38	Some Dangerous Goods (DGs) are stored within the Packaged Materials Store. i.e. it also contains non-DGs. The Building is not purpose-built for DGs. DGs are either kept on portable bunds within the building or in a recess in the floor. The observed quantity of stored DGs is small relative to the size of the building, which is particularly large), which means it should be possible to safely store the quantity of DGs observed, provided the separation distances and other requirements of the DG Standards is maintained. Given the use of the large space by both DGs and non-DGs there is no visual indication of which floor space can be occupied by DGs.	Rec - 24	Provide visual indication of spaces that may be utilised for DG storage to ensure compliance with the separation provisions of the DG Standards. Also provide visual indication of spaces to be maintained in a clear of obstruction to satisfy access to first response equipment as required in the DG Standards as well as personnel emergency access and egress.	Line marking of storage areas in Storage shed	Complete.
OBS # 40	Labelling of packages in Store is highly variable, including an IBC observed with just a large hand-written acronym: "GAC". Globally, inadequate labelling of packages has been a contributing factor to a significant number of accidents in which an inappropriate material has been used. Note: This was identified as REC 7 in the 2008 audit	Rec - 25	Provide clear and unambiguous labelling on all packages.	Noted. Toolbox labelling with reference to GHS	Completed.
OBS # 41	Various small packages of DGs associated with workshop activities are appropriately kept in a Flammable Liquid Storage Cabinet (FLSC). The Cabinet is located in a corridor between the Maintenance Office and Storage Shelving and the corridor leads to another area behind the Maintenance Office. Generally, FLSCs should not be located in corridors. It was also noted that access to the nearest fire extinguishers can be compromised by trip hazards.	Rec - 26	Investigate alternative locations not in a corridor for the FLSC. Ensure unobstructed access to fire extinguishers (In the present location it is recommended that a fire extinguisher be mounted on the adjacent shelving frame).	Move FLSC	Completed.
OBS # 42	Filter storage container (blue container) has remanence of previous dangerous goods labelling	Rec - 27	Remove redundant labelling on filter storage container	Remove labelling	Completed.
OBS # 43	Firefighting foam stored on spill containment. Spill containment contained rainwater reducing spill containment capacity	Rec - 28	Provide means of removing water or preventing rainwater ingress into firefighting foam spill containment	Work Instruction for managing bund rainwater to be developed	In progress.

Observation #	Description	Rec #	Recommendation	Action	Who/When
OBS # 45	Fire extinguisher base is touching top of process area perimeter bund. This can initiate corrosion of the base of the extinguisher.	Rec - 29	Raise mounting bracket on column	Unnecessary due to fire extinguisher inspection program	Noted.
OBS # 51	Critical Instrumented Protective Systems are identified in the manual in the control room. The preamble of the manual identifies the significant hazards and the consequence. Site indicated they do not have a procedure for assessing whether a CIPS meets the risk reduction required and whether a Safety Instrumented System (SIS) is required. Further to this it is unknown if the CIPS meet the Safety Integrity Level (SIL) rating (if required). For a SIL rated system there are specific requirements for inspection and testing, which are not addressed in a manufacturer's maintenance recommendations for an individual component in isolation of the system of which it is a part. Additionally, testing frequencies may be greater than those recommended by a component manufacturer.	Rec - 30	Risk assess CIPS (e.g. LOPA, Calibrated Risk Assessment) as per AS/IEC 61511 to determine the requirements for the CIPS including requirements (if necessary) to be SIL rated and SIL rating required.	Engage consultant to advise and address AS/IEC 61511 requirements	In progress, consultant to be engaged by 6 December 2019
OBS # 52	The testing of loops/Critical Instrumented Protective Systems (CIPS) and process trips was reviewed. Evidence of some individual component testing but no evidence for other components. The testing of process safety trips is completed on component basis rather than an end to end basis. This can lead to a situation where critical trips may not function tested end to end. Testing of equipment is generally based on vendor information, condition of service, the type of equipment and statutory requirements. As stated in Cleanaway's Hydrogenation Plant Operating Instructions, HGP-SOP 0001: "When processing work is done at high pressure and high temperature, significant risks exist at the interfaces of high pressure (HP) and low pressure (LP) systems. The risk involved is that of either HP breakthrough or backflow, of liquids or gases, to an LP system which is not designed for that pressure. The consequences of such an event could be catastrophic."	Rec - 31	For all CIPS create end to end test procedures for inclusion in the maintenance system	Included in OBS # 51	

Observation #	Description	Rec #	Recommendation	Action	Who/When
OBS # 53	Critical process set points would be changed under management of change methodology. Many set points are not critical which are done under administrative authority which ensures management approval.	Rec - 32	Document which set points are critical control points (CCP).	Risk assess and document	In progress.
OBS # 54	The Maintenance Planning System is being evolved (refer to CWR Rutherford equipment list maintenance.xls). The expected elements of an adequate planning system are recognized and being worked on. In its current stage of evolution, it is expected that the level of breakdown maintenance will be higher than when the system is fully evolved. Plants with significant levels of breakdown maintenance are at increased risk of harmful incidents often associated with the impacts of loss of containment of process substances.	Rec - 33	Consider accelerating the evolution of the Maintenance Planning System.	Cleanaway project in progress driven by corporate	In progress.
OBS # 55	As part of the evolution of the maintenance planning system a number of items have recently been added to this system.	Rec - 34	Continue improving the maintenance equipment list by prioritising the inclusion of all CIPS, Hazardous area and statutory equipment on site.	Noted	Noted.
OBS # 56	Plant items with the potential to cause significant harm upon failure do not have a formal classification in the Maintenance Planning System. In a fully evolved management system such classification drives their priority for scheduling and triggers a risk assessment process if deferral is sought. There is evidence of a higher criticality classification for some types of equipment that do fall within this definition, such as PSVs and Pressure Vessels because they are subject to an explicit Regulatory Requirement for their inspection. In the current evolution of the system the criticality of these items is referred to as "Compliance". The identification of PSVs and Pressure Vessels is a very good starting point.	Rec - 35	Formally identify all plant items (mechanical, electrical, instrument, structure), which degrade over time and have the potential to cause significant harm upon failure and create a dedicated criticality category for them to drive their prioritisation in the maintenance schedule.	Develop classification for maintenance items.	In progress.
OBS # 57	AECOM conducted a preliminary risk ranking to determine which modifications had the potential for higher risk. Modification 4, 8,18 & 17.05 were identified and reviewed in more detail. Site have a formal written Management of Change Procedure supporting the Modification Approval Form or	Rec - 36	Provide one central location for procedures. Include plant MOC procedure in this system.	Develop and toolbox MOC documentation system for CWR	In progress.

Observation #	Description	Rec #	Recommendation	Action	Who/When
	SWIF Template however access to it was restricted by access to the internet and various locations for documentation. A written procedure contributes to achieving consistency of approach, particularly during personnel changes. Evidence was available indicating that elements of the procedure are followed. Current modification procedure defines what is a modification which is inconsistent with onsite discussions regarding the definition of a modification being unknown. Examples of elements of the modification process that do not appear to be followed are updating of P&ID's, training requirements and full use of all check sheets. There were no modifications for set point changes, personnel changes or procedure updates. It is noted that this was a Recommendation (number 56) in the 2008 Hazards Audit to implement a modification procedure. Implementation includes adherence to the procedure.				
OBS # 58	As per OBS#57	Rec - 37	Improve adherence to the existing MOC procedure (e.g. following processes required by the procedure, training on the use of the mod, update of documentation including procedures, training matrices, P&ID, schematics, Hazardous area assessments). Better link between plant mod and project system and vice versa	As per OBS # 57	In progress.
OBS # 59	As per OBS#57	Rec - 38	Update MOC procedure to reference current legislation.	As per OBS # 57	In progress.
OBS # 60	Current set of P&ID's do not reflect changes that have been made on the plant. P&ID's are a key document in running, troubleshooting and risk assessing the plant.	Rec - 39	Update all P&IDs to "As Built" status	Update P&IDs – with reference to Rx series mod	In progress.
OBS # 64	The Hazardous Area Zone Classification requires up to date drawings	Rec - 40	The Hazardous area Classification drawings need to be reviewed and updated	Review	In progress.
OBS # 65	The hazardous area verification dossier is documented using a MS access Database, The Verification Dossier was reviewed for Compliance with AS60079, the verification dossier is a	Rec - 41	The verification dossier system is adequate but needs to be brought up to date to include recent additions (wireless Instruments). Additions to the verification dossier should be updated by a	Review and update Hazardous area management dossier.	In progress.

Observation #	Description	Rec #	Recommendation	Action	Who/When
	key element in ongoing maintenance and providing documentary proof that the plant is safe to operate.		"Competent person" as defined by AS60079		
OBS # 66	To ensure that Hazardous area equipment is maintained in a satisfactory condition, the hazardous area installation should be either regular periodic inspections or continuous supervision by skilled personnel;. The maximum interval for regular periodic inspections is 3yrs	Rec - 42	The maximum interval for periodic inspections has been exceeded. If the plant is relying on continuous supervision by the I&E Tradesperson then this to be needs to assess that it adequately meets the requirements of AS60079.17	Hazardous area routines are now included in the maintenance planning system. This will address any non-conformances and prevent reoccurrence	Noted.
OBS # 74	Training matrix of operator training was provided. Was advised that operators are long term with 50% of operators with approx. 10yrs service. Advised that Firefighting, confined space and SCBA training is completed. Training register was provided with a significant number personnel with either no training or training expired.	Rec - 43	Implement a prioritised training plan to close the training gaps in personnel training. Train personnel as per the training plan. (Refer to Rec # 14, 26, 40, 44 & 47 of 2008 audit)	Operator training matrix to be reviewed and updated. Records to be kept in Vault	Completed.
OBS # 80	Safety shower performance was not tested however all line sizes looked appropriate on preliminary basis	Rec - 44	Confirm safety showers meet the requirement of AS 4775 of 75.7 l/min	Test	In progress.
OBS # 81	Safety shower performance was not tested however all line sizes looked appropriate on preliminary basis	Rec - 45	-	Confirm eyewash flow meets AS 4775	In progress.
OBS # 83	2008 Audit REC 55. Setup a process to review potential consequences from serious incidents not just what actually happened. Setup a process to identify incidents in the industry and determine if applicable to the site (example: Join the Australian Institute of Dangerous Goods consultants or a petrochemical association).	Rec - 46	Recommend interaction with other similar industries. One example would be to subscribe to the US Chemical Safety Board (CSB). <a href="https://www.csb.gov/">https://www.csb.gov/</a>	Refer to Head of Health and Safety	-
OBS # 84	There is a large section of site that is unused and has redundant manufacturing building on it. The buildings have deteriorated over time. Some timber frames are looking unstable. Individual sections of sheeting remain on the building and pose a risk of being torn off in high winds. The area is considered to have a low occupancy.	Rec - 47	Demolish redundant timber structures and remove remaining sections of sheeting	Refer to property group.	-
OBS # 85	Redundant shipping containers and truck bodies left on site. Poor housekeeping practises can be indicative of the culture or expectations on site and also pose as risks as they deteriorate further or contain chemicals	Rec - 48	Dispose of unnecessary shipping containers or contents (e.g. flammable paints)	Remove from site	In progress.

