Environmental Monitoring Summary Report

Port Kembla Gas Terminal

Infrastructure Approval **SSI-9471**
EPL Licence Number: **21529**

Reporting period: **1 January 2024 – 31 January 2024**

Date published: **12 March 2024**

1 Project background

AIE is responsible for the development of a liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong, NSW (the Project). The Project will be the first of its kind in NSW and will provide a simple and flexible solution to the state's gas supply challenges.

The Project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW) and Schedule 5 of the *State Environmental Planning Policy State and Regional Development* (SRD SEPP). The Project received Infrastructure Approval from the Minister for Planning and Public Spaces on 29 of April 2019.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable a Liquified Natural Gas (LNG) Carrier to berth alongside the Floating Storage and Re-gasification Unit (FSRU) and new infrastructure to connect the terminal to the existing gas network. The location of the Project is shown on the Environmental Monitoring Location Plan provided as Appendix A.

An Environment Protection Licence (EPL) (EPL No. 21529) was issued for the Project by the NSW Environment Protection Authority (EPA) on 2 June 2021. The details of the EPL are provided below in Table 1-1.

Table 1-1 EPL Details

EPL No.	21529
Anniversary Date:	2 June
Licensee:	Australian Industrial Energy Pty Ltd
	PO Box 3155 Broadway
	Nedlands WA 6009
Premises:	Port Kembla Gas Terminal, Port Kembla NSW 2505
Scheduled Activity	Contaminated soil treatment
	Crushing, grinding or separating
	Petroleum products storage

2 Report purpose

This Monthly Environmental Monitoring Report has been prepared to provide an overview of project activities undertaken during the reporting period and those forecast for the next reporting period (refer to Section 3), and to satisfy the requirements associated with the reporting and publishing of monitoring data and results required under the relevant conditions of approval and environmental management plans as detailed further in Table 2-1.

Table 2-1 Environmental monitoring reporting requirements

Document	Clause or section	Requirement	Addressed:
DPIE SSI-9471	Sch. 4 Cond. 8	Regular Reporting – The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the reporting requirements in any strategies, plans or programs approved under the conditions of this approval.	This report which will be made available on the Project Website.
	Sch. 4 Cond. 12	Access to information – From the commencement of development under this approval, the Proponent shall: (a) Make copies of the following information publicly available on its website:	
		- a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs	Section 4
		- a summary of complaints, which is to be updated monthly	Section 5
AIE Air Quality Management Plan (Stage 2A and 2B)	Section 11.4	A monthly environmental monitoring report will be developed for each calendar month which will include details of the monitoring results and frequencies and inclusion of any exceedance of EPL No. 21529 air monitoring limits / criteria. A copy of the monthly environmental monitoring report will be made available on the AIE Project website.	Air quality monitoring results and frequencies and inclusion of any exceedance provided in Section 4.1
AIE Water Quality Monitoring Plan (Stage 2A and 2B)	Section 9.4	A monthly environmental monitoring report will be developed for each calendar month which will include details of the monitoring results and frequencies and inclusion of any exceedance of EPL (No. 21529) water quality monitoring limits / criteria. A copy of the monthly environmental monitoring report will be made available on the AIE Project website.	Water quality monitoring results and frequencies and inclusion of any exceedance provided in Section 4.2
EPL 21529	Condition M6.2	The licensee must monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology. Whilst there are no specific requirements to provide weather data in the monthly report, AIE has included the data for transparency and to assist with context for any monitoring results where required.	Section 4.3

3 Project activities

3.1 Project status

The project has progressed to Stage 2A, Stage 2B and Stage 3 as follows:

Stage 2A: Marine Berth Construction – Land Based. Associated works include:

- Quay wall construction.
- Installation of communications conduit, potable water line, and 11kV power cable and Pad-mount Substation within the Marine Berth Construction and Dredging (MBD) Site Compound.
- Construction of the Onshore Receiving Facilities (ORF), which comprises three areas: Wharf Topside Area; Utility Area; and Common Area.
- Pipeline construction and associated ancillary infrastructure within MBD Site Compound delivered as part of ORF scope.

Stage 2B: Marine Berth Construction – Marine Based. Associated works include:

- Continuation of Stage 2A works
- Excavation and dredging of the MBD Site Compound in the Inner Harbour and the Emplacement Cell in the Outer Harbour.
- Construction of the Emplacement Cell in the Outer Harbour.
- Marine based construction activities including installation of navigational aids and revetments at the MBD Site Compound.

Stage 3: Gas pipeline Construction. Associated works applicable to EPL No. 21529 include:

- Construction of gas pipeline section within Berth 101

3.2 Project activities for the reporting month

- Ongoing management / handling of rock fill material and emplacement cell materials at the Outer Harbour.
- Ongoing emplacement cell construction in the Outer Harbour.
- Sheet piling, excavation and construction of the stormwater channel culvert works and tie in at Outer Harbour.
- Backfilling stormwater channel culvert at Outer Harbour to later remove sheet piles.
- Completion of installation of fire water tanks at Berth 101.
- Trenching activities at Berth 101.
- Construction of southern revetment at Berth 101.
- Ongoing wharf construction and wharf rectification works at Berth 101.
- Ongoing installation of ORF underground services / utilities at Berth 101.

3.3 Project activities for the upcoming month

- Ongoing management / handling of rock fill material and emplacement cell fill materials at the Outer Harbour.
- Completion of dredging operations at Berth 101 and material reclamation at the Outer Harbour.
- Ongoing construction of the stormwater channel culvert works at Outer Harbour.
- Deconstruction of the Temporary Load-out Facility (TLF) at the Outer Harbour
- Backfill of sheet pile coffer dam and removal of sheet piles at the Outer Harbour
- Ongoing emplacement cell construction in the Outer Harbour
- Ongoing installation of ORF underground services / utilities.
- Ongoing wharf construction / rectification works at Berth 101.

4 Environmental monitoring data

The following sections present a summary of the air quality, water quality and weather monitoring data for the reporting month.

A copy of this report will be made available on the Project website at the following web-address:

https://www.squadronenergy.com/our-projects/port-kembla-energy-terminal

4.1 Air quality

4.1.1 Air Quality Monitoring Locations and Frequency

Air quality monitoring equipment is installed to the north and south of the MBD site compound (Berth 101), and to the east, to the west, and within the central portion of the Outer Harbour stockpile area.

A summary of the air quality monitoring locations is provided below in Table 4-1 and a monitoring location plan is provided in **Appendix A**.

Table 4-1 Air quality monitoring locations

EPL Ref.	Monitoring location	Monitoring type	Monitoring parameter	Monitoring frequency
8	Northern boundary of the premises, adjacent the southern boundary of Port Kembla Coal Terminal	Dust Deposition Gauge Ambient Air Monitoring - High Volume Air Sampler	Particulates - Deposited Matter ($gm/m^2/month$) Total suspended particles (TSP) (ug/m^3)	Monthly Special Frequency 1 (24-hour period every 6 days)
10	Southern boundary of Berth 101			
12	Southern side of emplacement area, Outer Harbour			
14	Eastern side of emplacement area, Outer Harbour			
22	Northern side of emplacement area, Outer Harbour			
9	Northern boundary of the premises, adjacent the southern boundary of Port Kembla Coal Terminal	Real time dust monitoring	PM10 (ug/m^3)	Continuous
11	Southern boundary of Berth 101			
13	Southern side of emplacement area, Outer Harbour			
15	Eastern side of emplacement area, Outer Harbour			
23	Northern side of emplacement area, Outer Harbour			

4.1.2 Air Quality Monitoring Results

The air quality monitoring results for the reporting month are presented below in Table 4-2.

Table 4-2 Air quality monitoring results

Monitoring Location (EPL Reference)		Monitoring parameter							
		Particulates Deposited Matter (Depositional dust gauge)[2]	Total Suspended Particulate (High Volume Air Sampler)			PM10 (Real-time Dust Track or equiv.)			Events above criteria[1]
			Average	Min.	Max.	Average	Min.	Max.	
Unit		g/m²/month	mg/m³	mg/m³	mg/m³	µg/m³/24 hr average	µg/m³/24 hr average	µg/m³/24 hr average	No.
Performance Criteria[3]		NA	NA	NA	NA	NA	NA	200	NA
Berth 101 North	EPL 8	5.60	0.13	0.07	0.24	No PM10 monitoring required at this EPL Point			NA
	EPL 9	No Dust Deposition Gauge or HiVol required at this EPL Point				60.16	27.33	159.58	0
Berth 101 South	EPL 10	3.10	0.08	0.04	0.15	No PM10 monitoring required at this EPL Point			NA
	EPL 11	No Dust Deposition Gauge or HiVol required at this EPL Point				42.03	16.71	83.67	0
Outer Harbour South	EPL 12	0.50	0.07	0.06	0.08	No PM10 monitoring required at this EPL Point			NA
	EPL 13	No Dust Deposition Gauge or HiVol required at this EPL Point				28.78	15.76	65.39	0
Outer Harbour East	EPL 14	0.50	0.16	0.04	0.54	No PM10 monitoring required at this EPL Point			NA
	EPL 15	No Dust Deposition Gauge or HiVol required at this EPL Point				47.85	24.02	95.39	0
Outer Harbour North	EPL 22	0.80	0.15	0.06	0.31	No PM10 monitoring required at this EPL Point			NA
	EPL 23	No Dust Deposition Gauge or HiVol required at this EPL Point				30.14	16.05	71.08	0

[1]Includes individual number of times results recorded above Stage 2A and Stage 2B performance criteria (200 ug/m³/24 hour average). Refer to **Appendix B** for event above criteria reports. Note that the performance criteria is based on an internal criteria and is not a requirement under the EPL.

[2]Assessed as Total Insoluble.

[3]Internal performance criteria as per the Port Kembla Gas Terminal Air Quality Management Plan - Stage 2A and 2B Marine Berth Construction and Dredging – Land and Marine Based (May 2022).

4.2 Water quality

4.2.1 *Water Quality Monitoring Locations and Frequency*

Water quality monitoring is undertaken at five (5) locations within the Port Kembla Harbour. Each water quality monitoring location is securely anchored/moored in its location. Details of each of the water quality monitoring locations and corresponding EPL monitoring point reference is provided below in Table 4-3.

Table 4-3 Port Kembla Harbour water quality monitoring locations

EPL Ref.	Monitoring location	Type of monitoring	Parameters	
			Continuous monitoring at 15 min intervals	Weekly grab sample
1	WQM1 - North of Berth 101	Primary- impact works area receiver	- Turbidity - Temperature - pH - Salinity (EC) - Dissolved oxygen	- Aluminium - Arsenic - Cadmium - Chromium (total) - Cobalt - Copper - Lead - Mercury - Nickel - Total PAHs - Tributyltin - TSS - Turbidity - Zinc
16	WQM2 - North of the emplacement cell, Outer Harbour.	Primary- impact works area receiver		
17	WQM3 - South West of Berth 101	Primary- impact works area receiver		
18	WQM4 - Near the Pacific Ocean entrance to Outer Harbour	Background water quality		
19	WQM5 - Near entrance to Allans Creek, near BlueScope Steel	Background water quality		

It is noted that the EPL 21529 also includes a mobile water quality monitoring point (EPL 24) for the undertaking of ambient water quality monitoring for turbidity within 5m of the outermost silt curtain near Berth 101 during dredging operations. As dredging works at Berth 101 continued throughout this reporting period, water quality monitoring was in place at EPL 24.

In addition to the monitoring requirements listed above for the harbour, monitoring is also required for any discharge event from the on-site sedimentation basin located at the southern end of Berth 101. Details of the monitoring requirements associated with the sediment basin discharge point are included below in Table 4-4.

Table 4-4 Sediment basin discharge monitoring

EPL Ref.	Monitoring location	Type of monitoring	Parameters	
			Prior to discharge	Daily grab sample during discharge
20	Sediment basin discharge point at the southern end of Berth 101	Wet weather discharge quality	- Oil and grease (visual) - Total suspended solids (TSS)	- Aluminium - Arsenic - Cadmium - Chromium - Cobalt - Copper - Lead - Mercury - Nickel - Oil and grease (visual) - pH - Total PAHs - Tributyltin - TSS - Zinc

4.2.2 Water Quality Monitoring Results

A summary of the results for the continuous water quality monitoring in Port Kembla Harbour is presented below in Table 4-5. Further details for exceedances as indicated below (if applicable) are provided in **Appendix B**.

Table 4-5 Port Kembla Harbour water quality – Continuous monitoring results

	Statistic	Results - based on individual 15-minute median				
		Turbidity (NTU)	Temperature (Deg. C)	pH	Electrical conductivity (uS/cm2)	Dissolved Oxygen (%sat)
Performance Criteria[4]		35 + BG[1]	N/A	6.5 – 8.5	N/A	70 – 110
WQM1 EPL 1	Average	2.2	23.2	8.2	51791.3	97.9
	Minimum	1.0	19.9	8.0	43410.0	72.8
	Maximum	17.9	26.7	8.3	53460.4	135.8
	Events above criteria[2]	0	-	0	-	15
WQM2 EPL 16	Average	3.1	22.5	8.4	52972.5	102.0
	Minimum	0.0	20.2	8.2	48890.0	87.7
	Maximum	40.4	24.4	8.6	53969.9	128.3
	Events above criteria[2]	1	-	6	-	14
WQM3 EPL 17	Average	2.4	23.3	8.2	51783.2	100.5
	Minimum	1.0	20.1	8.0	40912.5	80.5
	Maximum	53.9	27.5	8.3	53532.9	145.0
	Events above criteria[2]	3	-	0	-	16
WQM4 EPL 18 (Background)	Average	1.9	22.4	8.2	52407.5	102.3
	Minimum	1.0	19.5	8.1	48056.0	84.5
	Maximum	65.4	24.7	8.4	53564.4	131.6
WQM5 EPL 19 (Background)	Average	5.9	27.0	8.0	46362.3	97.2
	Minimum	0.7	22.1	7.9	46.9	86.4
	Maximum	86.4	31.5	8.2	54177.7	115.0
Mobile WQM / EPL 24 (Ambient)[3]	Average	1.68	Not required at this EPL point			
	Minimum	0				
	Maximum	10.9				
	Events above criteria[2]	0				

[1]Total suspended solids (TSS) is monitored in real time using turbidity in NTU and the NTU-TSS statistical correlation from an in-field study using *The Water Quality Monitoring Manual for Construction Sites*, as issued by the Alberta Ministry of Transportation. The NTU-TSS Correlation Study was issued to the EPA in email correspondence dated 01/03/2023. BG = Background, recorded at WQM4 and/or WQM5. For this reporting period an NTU-TSS correlation of 35 NTU being equivalent to 50 mg/L TSS has been adopted.

[2]Calculated as number of days where results exceeded performance criteria. Refer to Appendix B for exceedance reports.

[3]Complete results for this point are included as **Appendix C**. Data at this point is collected daily during dredging.

[4]Internal performance criteria as per the Port Kembla Gas Terminal Water Quality Monitoring Plan - Stage 2A and 2B Marine Berth Construction and Dredging – Land and Marine Based (May 2022), with the exception of NTU criteria set for EPL 24 which is based on EPL criteria.

4.2.3 *Water Quality Monitoring Results – Port Kembla Harbour Grab Samples*

A summary of the results for the Port Kembla Harbour weekly grab samples is presented below in Table 4-6. Further details for exceedances as indicated below (if applicable) are provided in **Appendix B**.

Table 4-6 Port Kembla Harbour water quality – Weekly grab sample results summary

Monitoring Location	Statistic[2]	Aluminium	Ammonia[3]	Arsenic	Cadmium	Chromium (total)	Cobalt	Copper	Iron[3]	Lead	Mercury	Nickel	Reactive Phosphorus[3]	Total PAHs	TSS	Tributyltin	Zinc
Unit		ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	Ug/L	ug/L	mg/L	ug/L	mg/L	ngSn/L	ug/L
Performance Criteria[4]		200	-	50	5.5	4.4	1	8	-	12	0.4	70	-	50	50	6	21
WQM1 EPL 1	Average	<5	0.09	1.60	<0.2	<0.5	0.10	1.40	<5	<0.2	<0.1	1.20	<0.01	<0.05	<5	<2	2.50
	Minimum	<5	0.09	1.40	<0.2	<0.5	0.10	1.10	<5	<0.2	<0.1	0.90	<0.01	<0.05	<5	<2	1.00
	Maximum	<5	0.09	1.80	<0.2	<0.5	0.10	2.00	<5	<0.2	<0.1	1.50	<0.01	<0.05	<5	<2	4.00
	Events above criteria[1]	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
WQM2 EPL 16	Average	<5	0.14	1.63	<0.2	0.20	<0.2	1.40	<5	<0.2	<0.1	0.60	<0.01	<0.05	<5	<2	1.00
	Minimum	<5	0.14	1.40	<0.2	0.20	<0.2	0.80	<5	<0.2	<0.1	0.60	<0.01	<0.05	<5	<2	1.00
	Maximum	<5	0.14	1.90	<0.2	0.20	<0.2	2.00	<5	<0.2	<0.1	0.60	<0.01	<0.05	<5	<2	1.00
	Events above criteria[1]	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
WQM3 EPL 17	Average	<5	0.17	1.58	<0.2	<0.5	<0.2	1.17	<5	<0.2	<0.1	0.95	<0.01	<0.05	<5	<2	2.00
	Minimum	<5	0.17	1.30	<0.2	<0.5	<0.2	0.60	<5	<0.2	<0.1	0.90	<0.01	<0.05	<5	<2	2.00
	Maximum	<5	0.17	1.80	<0.2	<0.5	<0.2	2.00	<5	<0.2	<0.1	1.00	<0.01	<0.05	<5	<2	2.00
	Events above criteria[1]	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
WQM4 EPL 18	Average	<5	0.08	1.53	<0.2	<0.5	<0.2	1.30	<5	<0.2	<0.1	0.50	<0.01	<0.05	<5	<2	<5
	Minimum	<5	0.08	1.30	<0.2	<0.5	<0.2	0.60	<5	<0.2	<0.1	0.50	<0.01	<0.05	<5	<2	<5
	Maximum	<5	0.08	1.60	<0.2	<0.5	<0.2	2.00	<5	<0.2	<0.1	0.50	<0.01	<0.05	<5	<2	<5
WQM5 EPL 19	Average	<5	0.24	1.68	<0.2	0.20	0.15	1.47	<5	<0.2	<0.1	1.87	<0.01	<0.05	<5	<2	4.00
	Minimum	<5	0.24	1.50	<0.2	0.20	0.10	1.10	<5	<0.2	<0.1	1.00	<0.01	<0.05	<5	<2	3.00
	Maximum	<5	0.24	1.80	<0.2	0.20	0.20	2.00	<5	<0.2	<0.1	2.60	<0.01	<0.05	<5	<2	5.00

[1]Includes individual number of times results exceeded criteria. Refer to **Appendix B** for exceedance reports.

[2]Only results above the laboratory Limit of Reporting (LOR) have been used to calculate these data functions. Where an analyte has not been detected above the LOR, the LOR has been listed.

[3]These analytes are only sampled for once a month per the project's ASSMP.

[4]Internal performance criteria as per the Port Kembla Gas Terminal Water Quality Monitoring Plan Stage 2A and 2B Marine Berth Construction and Dredging – Land and Marine Based (May 2022).

4.2.4 *Water Quality Monitoring Results – Sediment basin discharge*

During the reporting month, there was one discharge event due to small amounts of rainfall during the month of January. Refer to Section 4.3 for site weather monitoring details. The date of the events and a summary of the water quality results for the authorised discharge events from the sediment basin is included below in Table 4-7.

Table 4-7 Sediment basin discharge water quality – Pre-discharge and daily grab sample results

Date of discharge/ sampling	Aluminium	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Zinc	Tributyltin	TSS	pH	Oil & Grease	Total PAH	Overflow Discharge?	Rainfall (mm) Roll. 5-Day Total
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	-	mg/L	µg/L	-	mm
Criteria	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**50**	**NA**	**Visible**	**NA**	**NA**	**NA**
02/01/2024	108.00	1.0	<0.05	1.6	<0.1	0.9	<0.1	<0.1	<0.5	<1	<2	14	7.48	<5	<0.05	N	14.6

4.3 Weather station results

Under the EPL (Condition M6.2), AIE is required to monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either a project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology.

AIE established and maintains a weather station for the project site located at the southern point of Berth 101 (EPL monitoring point 21) as shown in **Appendix A**. The data obtained from the onsite weather station for the reporting period is provided below in Table 4-8.

Table 4-8 Site weather station monitoring results summary

Parameter	Unit of measure	Monthly statistic	Result EPL 21
Wind velocity	m/s (15min average)	Average	4.13
		Minimum	0.10
		Maximum	13.90
Wind direction at 10m	Degrees (1 hour averaging period)	See Wind Rose chart (Figure 4-1)	
Rainfall (Hour)	mm/hr (1 hour averaging period)	Average	0.00
		Minimum	0.00
		Maximum	0.25
Rainfall (Daily)	mm/day	Average	0.79
		Minimum	0.00
		Maximum	5.80
Rainfall (Month)	mm/month	Total	24.40
Temperature	Degrees Celsius	Average	22.71
		Minimum	17.80
		Maximum	33.70
Humidity	%	Average	81.87
		Minimum	36.10
		Maximum	100.00

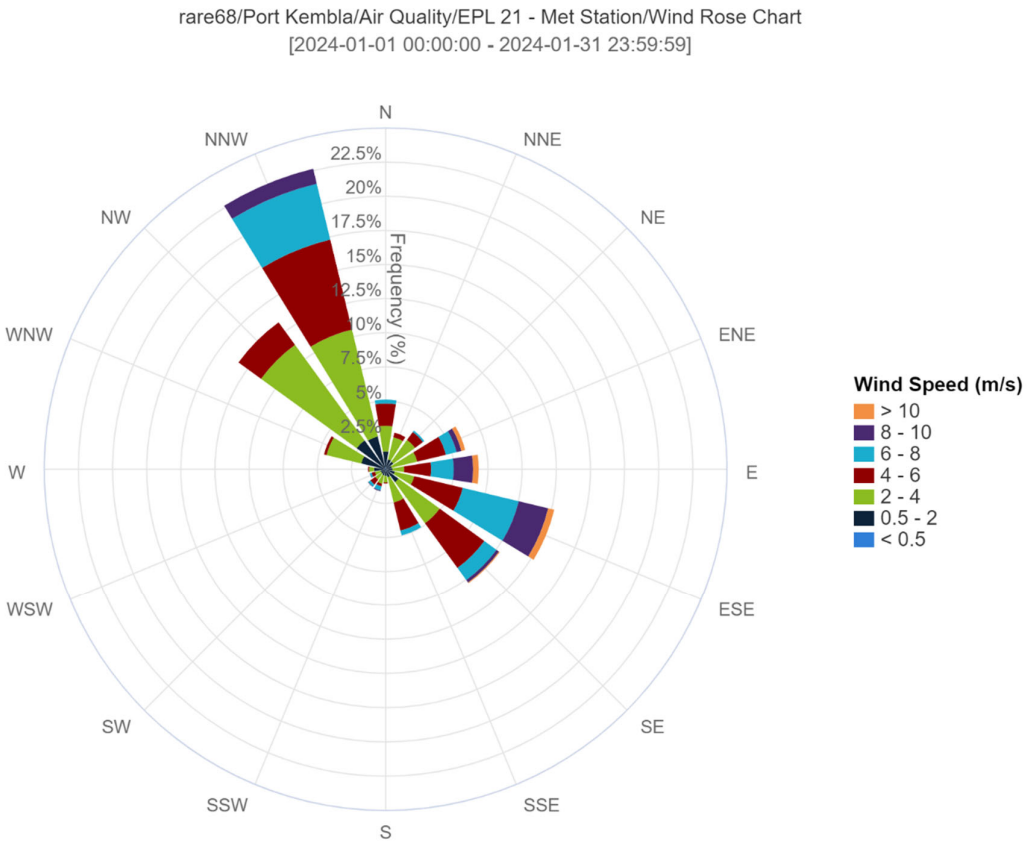


Figure 4-1 Wind Rose chart for the reporting period.

5 Environmental complaints

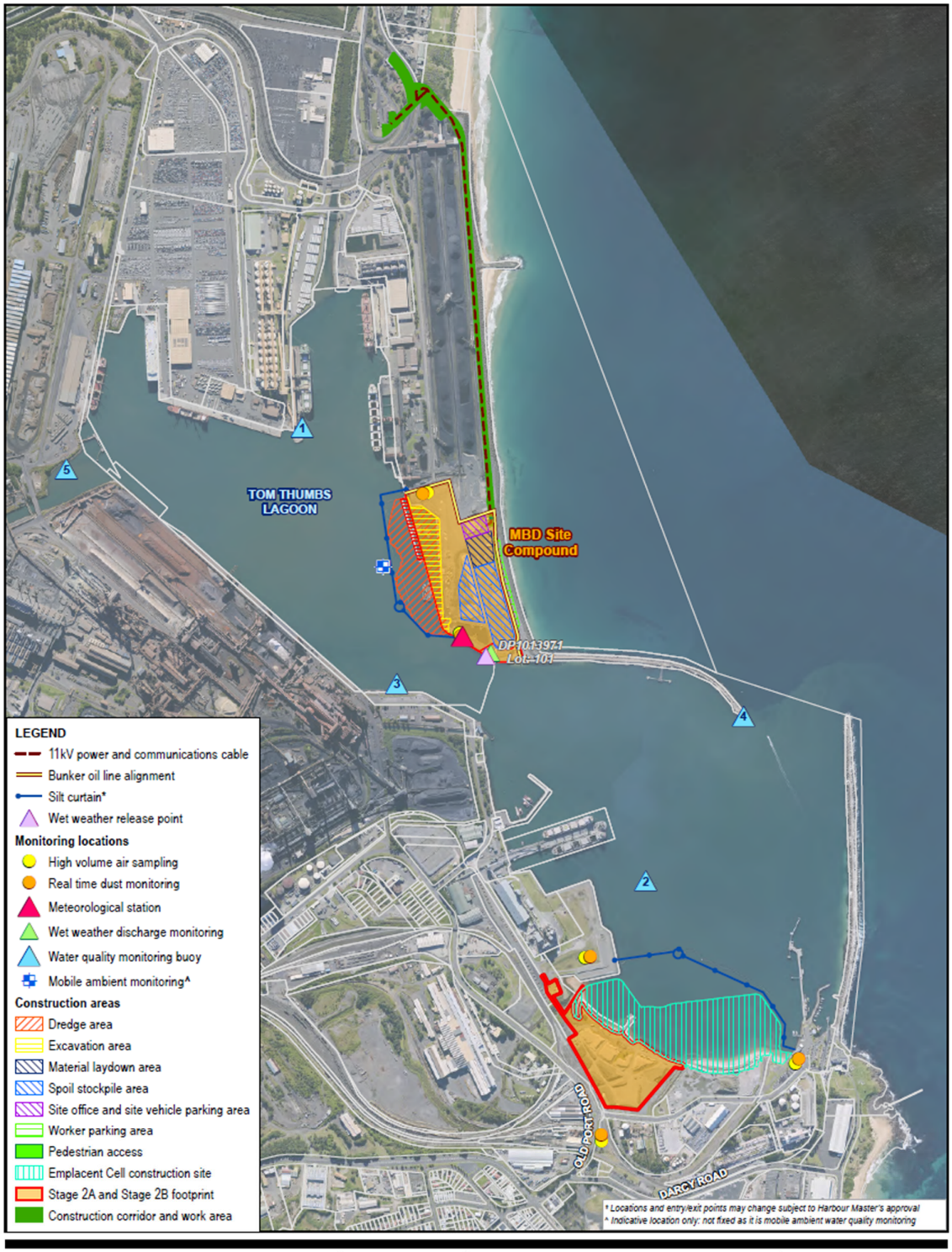
A summary of environmental complaints received during the reporting month and follow-up, close-out and or corrective actions are presented below in Table 5-1 where applicable.

Table 5-1 Environmental complaints summary

Date	Complaint No.	Nature of the complaint	Follow-up close-out and or corrective action
N/A	-	No complaints received during the reporting month	NA

Appendices

Appendix A - Monitoring Location Plan



Paper Size ISO A4

0 100 200 300 400

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Australian Industrial Energy
Port Kembla Gas Terminal

Premise Plan

Project No. **2127477**
Revision No. **C**
Date **08 Sep 2023**

FIGURE 1

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Data source: MetroMap - Imagery (date extracted: 08/09/2023) Metromap Tile Service; ; Generic topo - NSW LPI DTDB 2017 & 2015; Cadastre - NSW LPI DCDB 2021; Project components - Jemena. Created by: spoode

Appendix B – Summary of Events Above Criteria

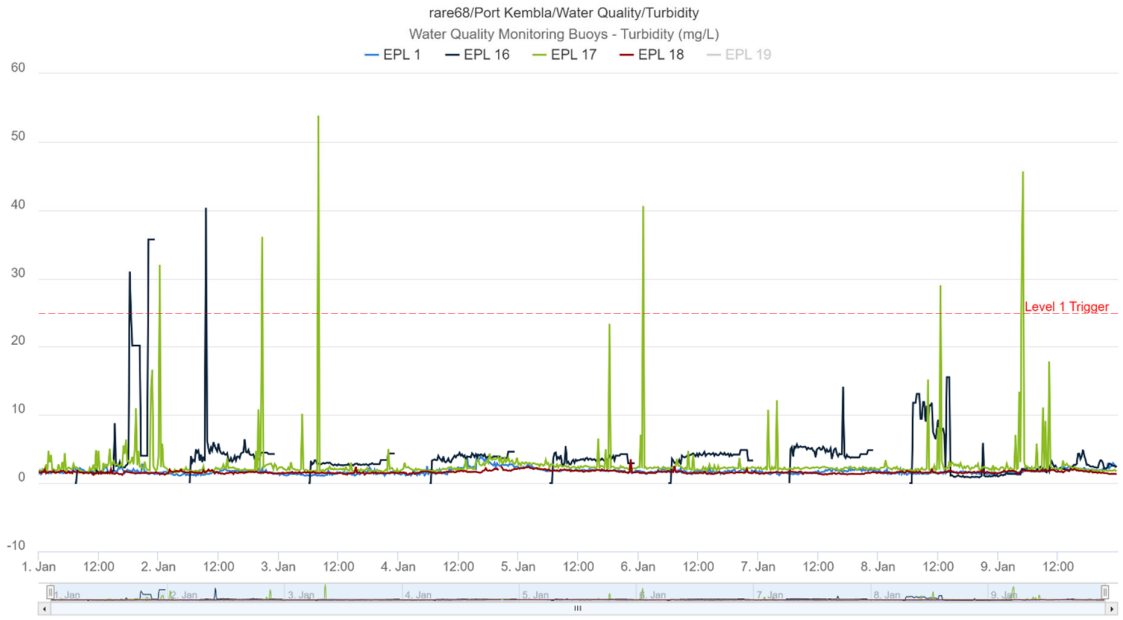
Each exceedance triggers an investigation including the nature of project activities being undertaken, evaluation of wind direction, comparison of upwind and downwind monitors at the time of the event. Dust prevention controls are continually being assessed to ensure their adequacy.

Air Monitoring Events Above Criteria

Date	Location	Exceedance value (ug/m^3/24 hours)	Action Taken & Investigation Outcomes
N/A	-	-	-

Water Monitoring Events Above Criteria: Harbour water quality – Continuous monitoring results – Turbidity

Date	Max. Background Buoy Value (Turbidity NTU) *Background (BG)*	Max. Receiver Buoy Value Turbidity (NTU) *Performance criteria - 35 + BG[1]*	Action Taken & Investigation Outcomes
January 1st – 9th 2024	WQM4 / EPL18: 3.50 WQM5 / EPL19: 12.66	WQM2 / EPL16: 40.40 (02/01/2024) WQM3 / EPL17: 53.85 (03/01/2024), 40.66 (06/01/2024), 45.71 (09/01/2024)	A chart showing turbidity readings for the days of the recorded exceedance is provided below. The exceedances observed at EPL16 and EPL17 were one-off peak readings likely due to biofouling of the sensor. Throughout the days there were consistent low-level readings observed at all buoys meaning these readings were outliers. Note dredging was not occurring at the time of these exceedances except for the 9th January.

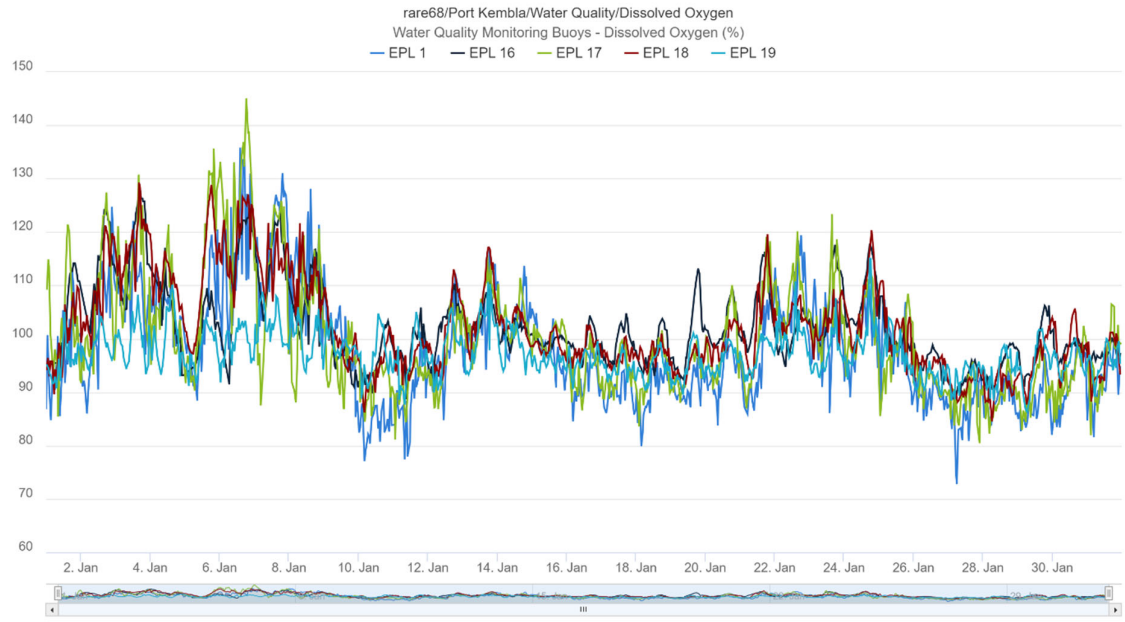


The above chart shows exceedances for turbidity from the 1st January 2024 to 9th January 2024 at EPL16 and EPL17.

[1]Total suspended solids (TSS) is monitored in real time using turbidity in NTU and the NTU-TSS statistical correlation from an in-field study using *The Water Quality Monitoring Manual for Construction Sites*, as issued by the Alberta Ministry of Transportation. The NTU-TSS Correlation Study was issued to the EPA in email correspondence dated 01/03/2023. BG = Background, recorded at WQM4 and/or WQM5. For this reporting period an NTU-TSS correlation of 35 NTU being equivalent to 50 mg/L TSS has been adopted.

Water Monitoring Events Above Criteria: Harbour water quality – Continuous monitoring results – Dissolved Oxygen

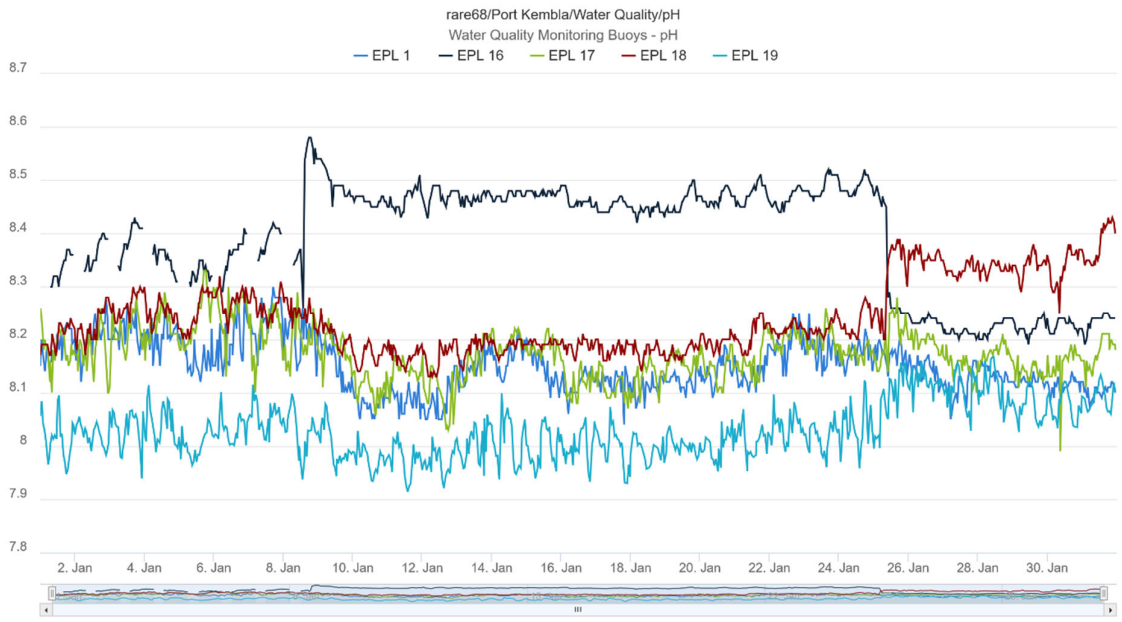
Date	Max. Background Buoy Value (DO%) *Background (BG)*	Max. Receiver Buoy Value (DO%) *Performance criteria - 70 - 110*	Action Taken & Investigation Outcomes
January 1st to 31th 2024	WQM4 / EPL 18: 140.31 WQM5 / EPL 19: 123.38	WQM1 / EPL 1: 139.47 WQM2 / EPL 16: 134.12 WQM3 / EPL 17: 138.77	Dissolved Oxygen is a measure of the amount of oxygen available to living aquatic organisms. Generally, the colder water is, the more oxygen it can hold. As the water becomes warmer the less oxygen can be dissolved in it. Aeration of the water will also increase DO levels. As elevated DO levels were observed at both receiver and background buoys, these levels reflect wider trends in the harbour and are unrelated to project activities.



The above chart shows DO observations across all buoys for the reporting period.

Water Monitoring Events Above Criteria: Harbour water quality – Continuous monitoring results – pH

Date	Max. Background Buoy Value (pH) *Background (BG)*	Max. Receiver Buoy Value (pH) *Performance criteria - 6.5 – 8.5*	Action Taken & Investigation Outcomes
January 8th to 24th 2024	WQM4 / EPL 18: 8.29 WQM5 / EPL 19: 8.12	WQM2 / EPL 16: 8.58 (08/01/2024) 8.54 (09/01/2024) 8.51 (11/01/2024) 8.51 (21/01/2024) 8.52 (23/01/2024) 8.52 (24/01/2024)	Elevated pH levels were observed at EPL16 during the reporting period. On review of the data this likely associated with calibration drift beginning from the 8th until the sensor was replaced on the 25th January when the pH recorded immediately returned to that expected for marine environments like Port Kembla (8.1 – 8.3).



The above chart shows pH observations across all buoys for the reporting period.

Appendix C – EPL 24 Data

This is a mobile monitoring point located five metres outside the silt curtain around Berth 101. Point 24 is required to be sampled daily for Total Suspended Solids (TSS) during dredging activities. TSS is monitored in real time using turbidity in NTU and the NTU-TSS correlation as recommended in the current EPL or from an in-field study approved by the EPA, whichever is more current at the time of measurement. For this reporting period an NTU-TSS correlation of 35 NTU being equivalent to 50 mg/L TSS has been adopted.

EPL 24 Daily Average Monitoring Results

Date	Turbidity (NTU)[1]
1/01/2024	-
2/01/2024	-
3/01/2024	-
4/01/2024	-
5/01/2024	-
6/01/2024	-
7/01/2024	-
8/01/2024	2.21
9/01/2024	1.04
10/01/2024	0.22
11/01/2024	1.48
12/01/2024	1.95
13/01/2024	1.03
14/01/2024	1.86
15/01/2024	1.16
16/01/2024	0.98
17/01/2024	1.95
18/01/2024	5.11
19/01/2024	2.77
20/01/2024	1.95
21/01/2024	1.84
22/01/2024	0.47
23/01/2024	0.95
24/01/2024	-
25/01/2024	-
26/01/2024	1.55
27/01/2024	-
28/01/2024	-
29/01/2024	-
30/01/2024	-
31/01/2024	-

Note: For dates where no results are recorded, no dredging activities at Berth 101 were undertaken.

[1] An average of a series of results are taken to obtain a representative sample.