



Environmental Monitoring Summary Report

Port Kembla Gas Terminal

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

Reporting period: **1 September 2022 – 30 September 2022**

Date published: **8 November 2022**



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 Liquefied 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 and Stage 2B 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.

3.2 Project activities for the reporting month

- Continued backfilling works with sand and general fill at the MBD Compound
- Continued construction of wharf capping beam and mooring dolphins
- Installation of the silt curtains in the Outer Harbour and Berth 101
- Ongoing mobilisation to the Outer Harbour Compound for the upcoming Stage 2B of the project, including arrival of key marine vessels and the ongoing establishment of the Outer Harbour compound.

3.3 Project activities for the upcoming month

- Ongoing backfilling of completed wall sections at the MBD Compound
- Ongoing construction of wharf capping beam and mooring dolphins
- Construction of the Outer Harbour Emplacement Cell
- Commencement of dredging at Berth 101 and continued mobilisation of equipment for Stage 2B of the project.

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://ausindenergy.com/environmental-information/>

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 | Particulates - Deposited Matter (gm/m ² /month) | Monthly |
| 10 | Southern boundary of Berth 101 | | | |
| 12 | Southern side of emplacement area, Outer Harbour | Ambient Air Monitoring - High Volume Air Sampler | Total suspended particles (TSP) (ug/m ³) | Special Frequency 1 (24-hour period every 6 days) |
| 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)** | Total Suspended Solids (High Volume Air Sampler) | | | PM10 (Real-time tracker) | | | Events above criteria* |
| | | | Average | Min. | Max. | Average | Min. | Max. | |
| Unit | g/m ² /month | mg/m ³ | mg/m ³ | mg/m ³ | ug/m ³ /24 hours | ug/m ³ /24 hours | ug/m ³ /24 hours | No. | |
| Criteria | NA | NA | NA | NA | NA | NA | 200 | NA | |
| Berth 101 North | EPL 8 | -*** | 0.18 | 0.10 | 0.31 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 9 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 50.94 | 17.83 | 117.57 | 0 |
| Berth 101 South | EPL 10 | EPL 10 | 6.00 | 0.14 | 0.09 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 11 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 48.12 | 20.19 | 111.88 | 0 |
| Outer Harbour South | EPL 12 | 2.20 | 0.06 | 0.02 | 0.09 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 13 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 26.25 | 6.40 | 74.67 | 0 |
| Outer Harbour East | EPL 14 | 0.50 | 0.06 | 0.03 | 0.08 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 15 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 22.65 | 8.46 | 44.55 | 0 |
| Outer Harbour North | EPL 22 | -*** | 0.06 | 0.02 | 0.09 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 23 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 16.61 | 5.60 | 45.95 | 0 |

*Includes individual number of times results recorded above Stage 2A and Stage 2B performance criteria (200 ug/m³/24 hours). Refer to Appendix B for event above criteria reports.

**Assessed as Total Insoluble.

***Sample damaged during transport and unable to be analysed.

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 | | - Aluminium |
| 16 | WQM2 - North of the emplacement cell, Outer Harbour. | Primary- impact works area receiver | | - Arsenic |
| 17 | WQM3 - South West of Berth 101 | Primary- impact works area receiver | - Turbidity | - Cadmium |
| 18 | WQM4 - Near the Pacific Ocean entrance to Outer Harbour | Background water quality | - Temperature | - Chromium (total) |
| 19 | WQM5 - Near entrance to Allans Creek, near BlueScope Steel | Background water quality | - pH | - Cobalt |
| | | | - Salinity (EC) | - Copper |
| | | | - Dissolved oxygen | - Lead |
| | | | | - Mercury |
| | | | | - Nickel |
| | | | | - Total PAHs |
| | | | | - TSS |
| | | | | - Tributyltin |
| | | | | - Zinc |

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 within 5m of the outermost silt curtain near Berth 101. As dredging works at Berth 101 had not commenced during the reporting period, water quality monitoring was therefore not undertaken at EPL 24. Dredging activities at Berth 101 will commence during the month of October 2022, and therefore associated EPL 24 monitoring results will be reported accordingly in the October 2022 monthly report.

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 Continuous 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

| Monitoring location | Statistic | Results - based on individual 15-minute median | | | | |
|-------------------------------|------------------------------------|--|----------------------|-----------|---------------------------------|-------------------------|
| | | Turbidity (NTU) | Temperature (Deg. C) | pH | Electrical conductivity (uS/cm) | Dissolved Oxygen (%sat) |
| Criteria | | 50 + BG ¹ | N/A | 6.5 – 8.5 | N/A | 70 – 110 |
| WQM1 / EPL 1 | Average | 3.4 | 17.6 | 8.3 | 51488.1 | 96.6 |
| | Minimum | 1.7 | 16.4 | 8.0 | 24989.7 | 83.0 |
| | Maximum | 28.4 | 19.7 | 8.3 | 53114.1 | 108.7 |
| | Events above criteria ² | 0 | - | 0 | - | 0 |
| WQM2 / EPL 16 | Average | 2.6 | 17.2 | 8.2 | 52740.0 | 101.5 |
| | Minimum | 1.6 | 15.8 | 8.2 | 46595.2 | 88.0 |
| | Maximum | 121.9 | 20.5 | 8.2 | 53354.6 | 123.4 |
| | Events above criteria ² | 1 | - | - | - | 9 |
| WQM3 / EPL 17 | Average | 3.1 | 17.7 | 8.2 | 51438.9 | 97.6 |
| | Minimum | 1.6 | 15.5 | 8.0 | 27135.3 | 85.7 |
| | Maximum | 34.7 | 21.8 | 8.4 | 53020.9 | 108.3 |
| | Events above criteria ² | 0 | - | 0 | - | 0 |
| WQM4 / EPL 18 (Background) | Average | 3.0 | 17.3 | 8.1 | 52195.6 | 95.0 |
| | Minimum | 0.0 | 16.1 | 8.0 | 33060.4 | 85.8 |
| | Maximum | 63.3 | 18.6 | 8.3 | 53267.7 | 109.9 |
| WQM5 / EPL 19 (Background) | Average | 7.2 | 18.8 | 8.1 | 51990.9 | 98.7 |
| | Minimum | 2.0 | 14.8 | 7.8 | 33215.4 | 86.9 |
| | Maximum | 314.5 | 26.0 | 8.3 | 55784.7 | 107.6 |

¹Total suspended solids (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. BG = Background, recorded at WQM4 and/or WQM5.

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



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 **Error! Not a valid bookmark self-reference.** 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 (dissolved) | Arsenic (dissolved) | Cadmium (dissolved) | Chromium (dissolved) | Cobalt (dissolved) | Copper (dissolved) | Lead (dissolved) | Mercury (dissolved) | Nickel (dissolved) | Total PAHs | Total Suspended Solids (TSS) | Tributyltin (as Sn) | Zinc (dissolved) |
|---------------------|------------------------------------|-----------------------|---------------------|---------------------|----------------------|--------------------|--------------------|------------------|---------------------|--------------------|------------|------------------------------|---------------------|------------------|
| | Unit | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | Ug/L | ug/L | ug/L | mg/L | ngSn/L | ug/L |
| | Criteria | 200 | 50 | 5.5 | 4.4 | 1 | 8 | 12 | 0.4 | 70 | 50 | 50 | 6 | 21 |
| WQM1/ EPL 1 | Average | <5 | 1.43 | <1 | <0.5 | <1 | 1.50 | <0.2 | <0.1 | 0.60 | <0.05 | <5 | <2 | <5 |
| | Minimum | <5 | 1.20 | <1 | <0.5 | <1 | 1.00 | <0.2 | <0.1 | 0.60 | <0.05 | <5 | <2 | <5 |
| | Maximum | <5 | 1.60 | <1 | <0.5 | <1 | 2.00 | <0.2 | <0.1 | 0.60 | <0.05 | <5 | <2 | <5 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM2 / EPL 16 | Average | <5 | 1.40 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 0.50 | <0.05 | <5 | <2 | <5 |
| | Minimum | <5 | 1.30 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 0.50 | <0.05 | <5 | <2 | <5 |
| | Maximum | <5 | 1.50 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 0.50 | <0.05 | <5 | <2 | <5 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM3 / EPL 17 | Average | <5 | 1.43 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 1.00 | <0.05 | <5 | <2 | <5 |
| | Minimum | <5 | 1.30 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 1.00 | <0.05 | <5 | <2 | <5 |
| | Maximum | <5 | 1.50 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | 1.00 | <0.05 | <5 | <2 | <5 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM4 / EPL 18 | Average | <5 | 1.45 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | <0.5 | <0.05 | <5 | <2 | <5 |
| | Minimum | <5 | 1.30 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | <0.5 | <0.05 | <5 | <2 | <5 |
| | Maximum | <5 | 1.60 | <1 | <0.5 | <1 | <1 | <0.2 | <0.1 | <0.5 | <0.05 | <5 | <2 | <5 |
| WQM5 / EPL 19 | Average | <5 | 1.48 | <1 | <0.5 | <1 | 1.50 | <0.2 | <0.1 | 1.35 | <0.05 | <5 | <2 | <5 |
| | Minimum | <5 | 1.40 | <1 | <0.5 | <1 | 1.00 | <0.2 | <0.1 | 1.30 | <0.05 | <5 | <2 | <5 |
| | Maximum | <5 | 1.60 | <1 | <0.5 | <1 | 2.00 | <0.2 | <0.1 | 1.40 | <0.05 | <5 | <2 | <5 |

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

²Only 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 throughout the monitoring period, the LOR has been listed.



4.2.4 Water Quality Monitoring Results – Sediment basin discharge

During the reporting month, there was a single authorised discharge event on 29/09/2022, and zero (0) discharge events as a result of excessive rainfall exceeding the design criteria of the basin (>43.5 mm in any 5-day period). 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 | - | - | µg/L | - | - |
| Criteria | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 50 | NA | Visible | NA | NA | NA |
| 29/09/2022 | 16.00 | 0.60 | <0.2 | <0.5 | 0.40 | <1 | <0.2 | <0.1 | 1.60 | 8.00 | <2 | <5 | 7.13 | <5 | <0.05 | N | 35.2 |



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 Point 21 |
|-----------------------------|--------------------------------------|---|------------------------|
| Wind velocity | m/s (15 min averaging period) | Average | 4.39 |
| | | Minimum | 0.17 |
| | | Maximum | 11.53 |
| Wind direction at 10 metres | Degrees (1 hour averaging period) | See Wind Rose chart for the reporting period on the following page. | |
| Rainfall rate | mm/hr (1 hour averaging period) | Average | 0.02 |
| | | Minimum | 0.00 |
| | | Maximum | 2.13 |
| Rainfall (Total) | mm/day | Average | 5.31 |
| | | Minimum | 0.00 |
| | | Maximum | 61.20 |
| Temperature | Degrees Celsius | Average | 15.59 |
| | | Minimum | 9.50 |
| | | Maximum | 22.60 |
| Humidity | % | Average | 73.70 |
| | | Minimum | 24.40 |
| | | Maximum | 100.00 |

rare68/Port Kembla/Air Quality/EPL 21 - Met Station/Wind Rose Chart
[2022-09-01 00:00:00 - 2022-09-30 23:59:59]

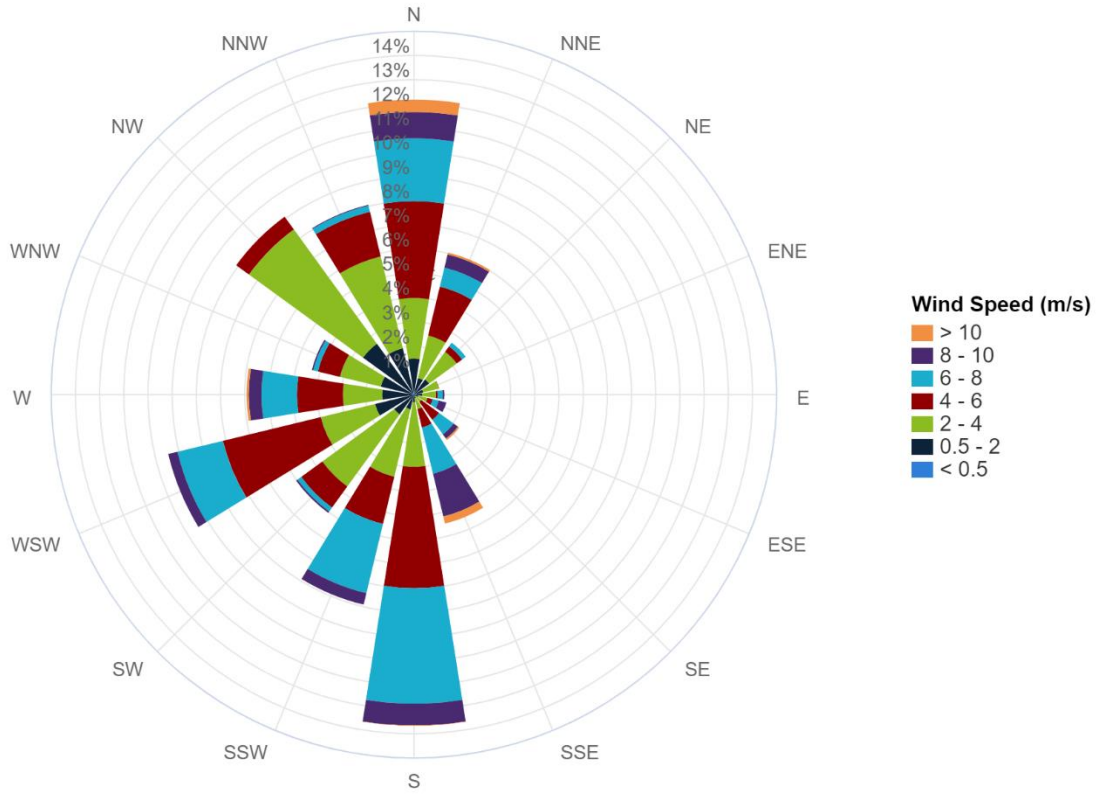


Figure 4-1 Wind Rose chart for the reporting period.



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 |
|------|---------------|--|--|
| NA | NA | No environmental complaints received for the reporting month | NA |



Appendices

Appendix A - Monitoring location plan



| | | | | |
|---|--|--|---|---|
| <p>Paper Size ISO A4</p> <p>0 0.1 0.2 0.3 0.4 Kilometers</p> <p>Map Projection: Transverse Mercator Horizontal Datum: GDA 1994 Grid: GDA 1994 MGA Zone 56</p> | | | <p>Australian Industrial Energy Port Kembla Gas Terminal</p> <p>EPL Licence Premises Stage 1</p> | <p>Project No. 21-27477 Revision No. - Date 04/06/2021</p> <p>FIGURE 1</p> |
|---|--|--|---|---|

Data source: Aerial imagery - nearmap, 2021 (image date 18/04/2018, date extracted 18/02/2019); General topo - NSW LPI DTD 2017 & 2015; Cadastre - NSW LPI DCDB 2017. Created by: sfoddy

Appendix B – Summary of Events Above Criteria

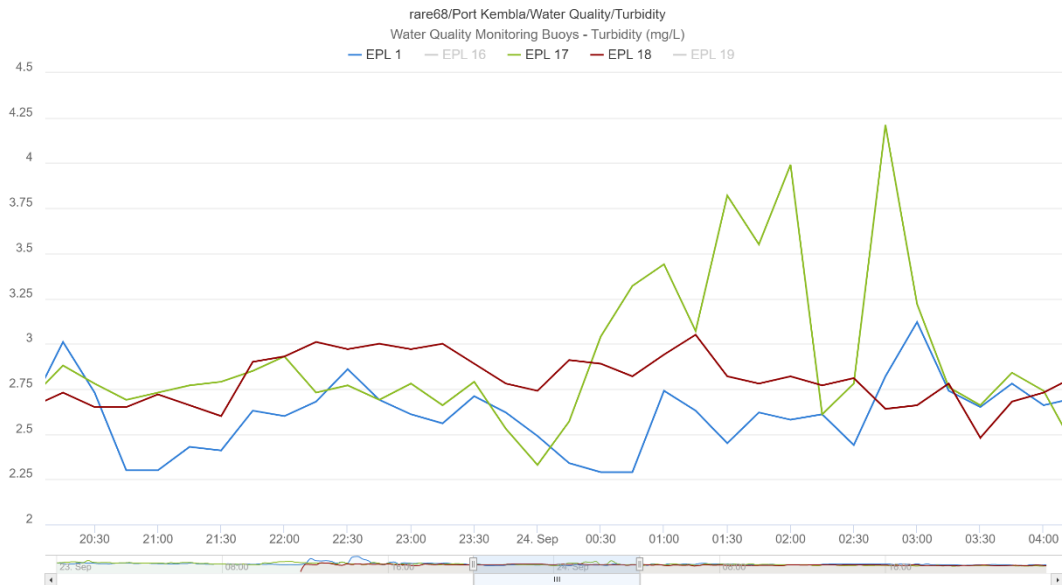
Each exceedance triggers an investigation including the evaluation of wind direction, comparison of upwind and downwind monitors at the time of the event. Dust prevention controls are continually being assessed to ensure their adequacy.

Air Monitoring Events Above Criteria

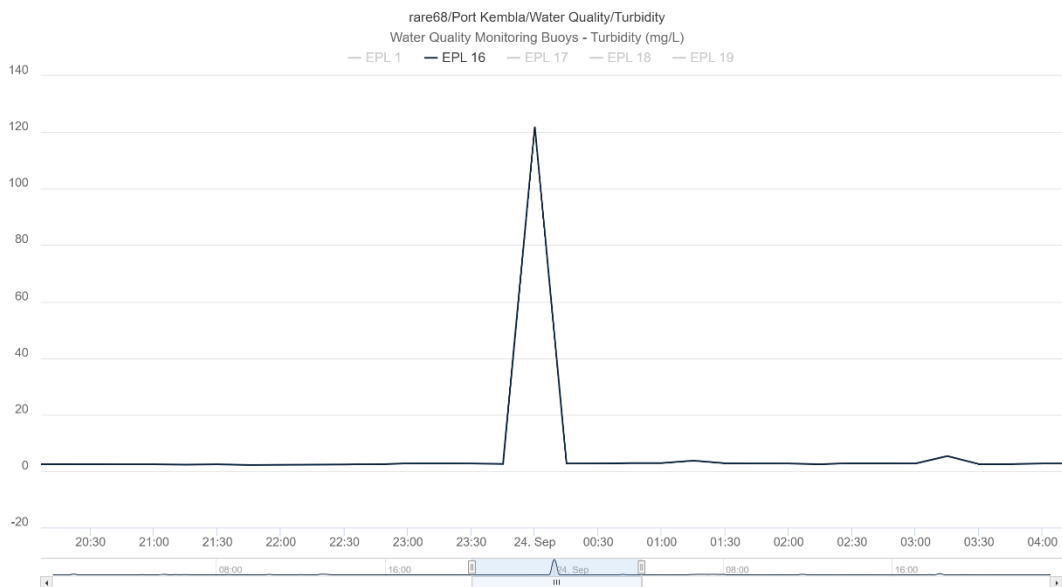
| Date | Location | Exceedance value (ug/m ³ /24 hours) | Action Taken & Investigation Outcomes |
|------|----------|---|---------------------------------------|
| N/A | - | - | - |

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

| Date | Max. Background Buoy Value (NTU) | Max. Receiver Buoy Value (NTU) | Action Taken & Investigation Outcomes |
|----------------------------------|--|--------------------------------|--|
| | Performance Criteria | 50 + BG ¹ | |
| Saturday 24 September 2022 | WQM4 / EPL18: 3.05 WQM5 / EPL19: NA | WQM3 / EPL 16: 121.85 | At the time of the exceedance there were no dredging activities within the Inner or Outer Harbour. The exceedance is thought to have been caused by either unrelated shipping movements within the port or biological fouling of the monitoring sensor. Moderate (18.2 mm) rainfall in the 48 hours leading up to the exceedance could also have been a contributing factor. |



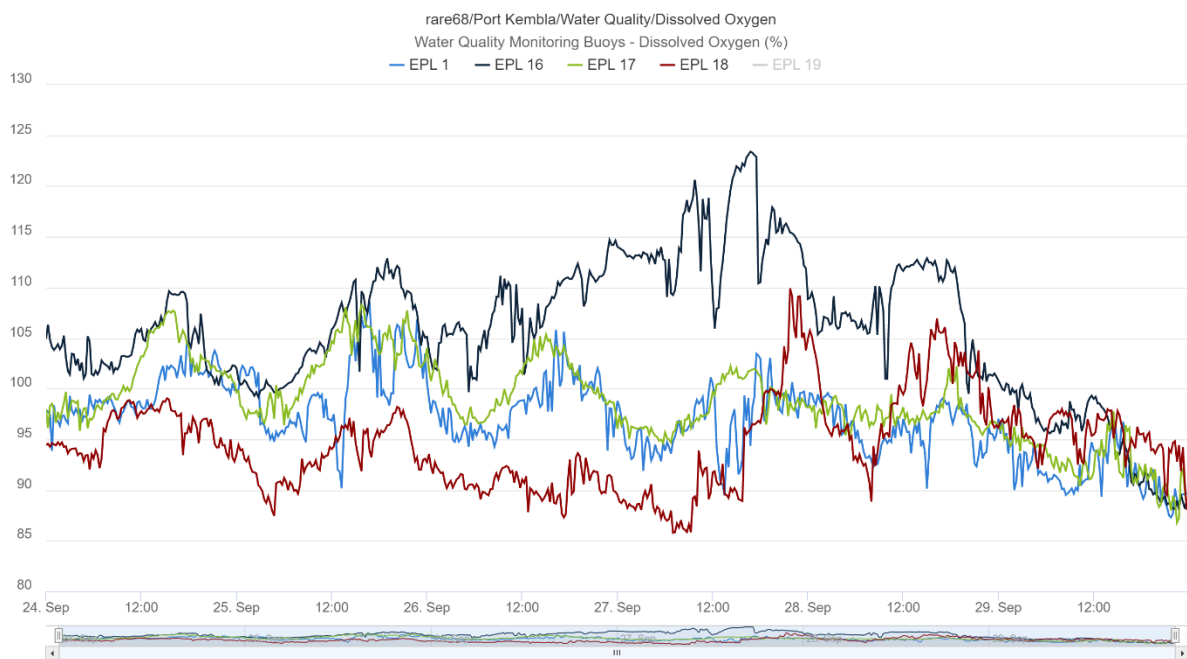
The above chart shows turbidity observations at EPL 1, EPL 17 and EPL 18 at the time of the exceedance.



The above chart shows the turbidity exceedance observed at EPL 16.

¹Total suspended solids (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. BG = Background, recorded at WQM4 and/or WQM5.

| Date | Max. Background Buoy Value (DO%) | Max. Receiver Buoy Value (DO%) | Action Taken & Investigation Outcomes |
|---|--|--------------------------------|---|
| | Performance Criteria | 70 - 110 | |
| September 19, 20, 21, 22, 23, 25, 26, 27 and 28 | WQM4 / EPL18: 109.90 WQM5 / EPL19: NA | WQM3 / EPL 16: 123.40 | 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. DO recordings in the harbour match this cycle. The elevated readings during this period are likely related to sensor drift (all sensors on all the WQM Buoys are replaced on a two-monthly cycle) with the sensor installed 28/09/2022 immediately returning results within the performance criteria. |



The above chart shows DO observations at EPL 1, EPL16, EPL 17 and EPL 18 up to and following sensor replacement on the 28th of September.