



Environmental Monitoring Summary Report

Port Kembla Gas Terminal

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

Reporting period: **1 November 2021 – 30 November 2021**

Date published: 13 January 2022



1 Project background

AIE is developing 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 (the Approval) from the Minister for Planning and Public Spaces on 29 of April 2019, approval SSI-9471.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable an 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 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 | Chemical storage |
| | Contaminated soil treatment |
| | Crushing, grinding or separating |

2 Report purpose

This Monthly Environmental Monitoring Report has been prepared to satisfy the monitoring data reporting requirements of the approval and environmental management plans as detailed further below in Table 2-1 for the reporting month of November 2021.

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 to 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 | |
| AIE Air Quality Management Plan | Section 8.3 | A summary of monthly data will be published on the Project's webpage, noting any exceedance of EPL trigger value, investigation, and response. | This report |
| AIE Water Quality Management Plan | Section 8.5 | Regular reporting A summary of monthly data will be published on the PKGT AIE website in the form of a report. The report will note details for: | This report which will be made available on the Project Website. |
| | | - Any exceedance of COC trigger values, the subsequent investigation and response/resolution | Section 4 and Appendix B |
| | | - Complaint summary (if applicable) | Section 4.4 |
| | | - Statistics related to productivity of work (actual workflow vs planned) including details on any delays encountered | Section 3.1 |
| | | - Forecasting for future works | Section 3.3 |
| | | - Activities completed for the month | Section 3.2 |
| | | - Activities planner for the next month | Section 3.3 |
| | | - Current risks and issues, including impact level and mitigation measures. | Section 0 |

3 Project activities

3.1 Project status

Early Enabling works are scheduled for approximately 6 months and include:

- Excavation to allow removal of existing structures and services and facilitate construction of the quay wall
- Demolition/removal of Berth 101 and aboveground structures
- Demolition/removal of aboveground and underground services
- Relocation of existing stockpiles onsite
- Transport of spoil via road from the Marine Berth and Dredging Site Compound to the Emplacement Cell Construction Site in the Outer Harbour
- Platform excavation and stockpiling
- Processing demolished materials (for re-use or recycling) by others.
- Cone Penetration Testing in the Outer Harbour

3.2 Project activities for the reporting month

- Concrete processing
- Berth 101 pile removal
- Bulk excavation of fill layer and stockpiling
- Bulk excavation of sand layer and transport to Outer Harbour

3.3 Project activities for the upcoming month

- Concrete processing
- Berth 101 pile removal
- Bulk excavation of sand layer and transport to Outer Harbour
- Preparation of Site for Christmas Break

3.4 Current project environmental risks and controls

The identified environmental risk and proposed mitigation measures and controls for the current and foreseeable construction activities are presented in Table 3-1.

Table 3-1 Project environmental risks

| Ref. | Environmental risk | | Associated activity | Mitigation measure |
|---------|--------------------------|---|--|--|
| | Aspect | Impact | | |
| 2106_01 | Water quality | Water pollution | Construction works adjacent to the Port Kembla Harbour | Implementation of the Construction Water Quality Monitoring Plan (CWQMP) |
| | | | | Water quality monitoring and reporting |
| | | | | Implementation of water discharge permit procedure for sediment basin discharge. |
| 2106_02 | Air quality | Generation of nuisance dust levels | Demolition works | Implementation of the Air Quality Management Plan |
| | | | | Continuous air quality monitoring |
| 2106_03 | Environmental compliance | Breach of legislation and or Management Plan requirements | Commencement of and ongoing works | Establishment and implementation of environmental procedures and processes |
| | | | | Liaisons with regulatory authorities and seek clarification where required |
| | | | | Regular site inspections and coordination meetings with contractor |

4 Environmental monitoring data

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

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 demolition area (Berth 101), and to the east, west and central portion of the Outer Harbour stockpile area.

A summary of the air quality monitoring locations are 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 | and | and | |
| 12 | Southern side of emplacement area, Outer Harbour | | | |
| 14 | Eastern 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) |
| 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 | PM ₁₀ (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 **Error! Reference source not found..**

Table 4-2 Air quality monitoring results

| Monitoring Location (EPL Reference) | | Monitoring parameter | | | | | | | |
|--|-------------------------|---|--|-------------------|-----------------------------|---|-----------------------------|---------|------------------------------------|
| | | Particulates Deposited Matter (Depositional dust gauge) ² | Total Suspended Particles (High Volume Air Sampler) | | | PM10 (Real-time tracker) | | | Events above criteria ¹ |
| | | | Average | Minimum | Maximum | Average | Minimum | Maximum | |
| Unit | g/m ² /month | ug/m ³ | ug/m ³ | ug/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 | 50 | NA | |
| Berth 101 North | EPL 8 | 4.40 | 0.10 | 0.07 | 0.12 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 9 | No Dust Deposition Gauge or HiVol required at this EPL Point | | | | 38.75 | 14.88 | 83.22 | 5 |
| Berth 101 South | EPL 10 | 4.10 | 0.11 | 0.06 | 0.15 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 11 | No dust gauge or HiVol required at this EPL Point | | | | 35.58 | 12.17 | 80.67 | 6 |
| Outer Harbour South | EPL 12 | 1.80 | 0.06 | 0.04 | 0.13 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 13 | No dust gauge or HiVol required at this EPL Point | | | | 15.17 | 3.00 | 45.80 | 0 |
| Outer Harbour East | EPL 14 | 0.60 | 0.13 | 0.04 | 0.36 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 15 | No dust gauge or HiVol required at this EPL Point | | | | 23.32 | 6.40 | 70.28 | 1 |
| Outer Harbour North | EPL 22 | 1.60 | 0.08 | 0.03 | 0.14 | No PM10 monitoring required at this EPL Point | | | NA |
| | EPL 23 | No dust gauge or HiVol required at this EPL Point | | | | 25.20 | 6.85 | 102.98 | 5 |

¹Includes individual number of times results recorded above criteria. Refer to Appendix B for event above criteria reports.

²Assessed as Total Insoluble.

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 licence reference is provided below in Table 4-3.

Table 4-3 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 | | |
| 16 | WQM2 - North of the emplacement cell, Outer Harbour. No more than 20m from emplacement cell silt curtain | Primary- impact works area receiver | - Turbidity - Temperature | - Aluminium - Arsenic - Cadmium - Chromium (total) - Cobalt - Copper |
| 17 | WQM3 - South West of Berth 101 | Primary- impact works area receiver | - pH - Electrical Conductivity | - Lead - Mercury - Nickel |
| 18 | WQM4 - Near the Pacific Ocean entrance to Outer Harbour | Background water quality | - Dissolved oxygen | - Tributyltin - TSS - Zinc - PAH |
| 19 | WQM5 - Near entrance to Allans Creek, near Bluescope Steel | Background water quality | | |

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 | - Ensure water is free of oil & grease (visual) and can meet EPL requirement for TSS level (50mg/L) | - Aluminium - Arsenic - Cadmium - Chromium - Cobalt - Copper - Lead - Mercury - Nickel - Oil and grease (visual) - pH - PAHs - Tributyltin - TSS - Zinc |

With the variation of the EPL in August 2021, a new ambient water quality monitoring point was added, Point 24. 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 pile removal activities. Turbidity can be used in place of TSS to enable real time readings. The correlation utilised during this reporting period is a turbidity value equivalent of 50 NTU to 50 mg/L TSS. Details of the monitoring requirements associated with EPL Point 24 are included below in Table 4-5 Silt curtain monitoring

Table 4-5 Silt curtain monitoring

| EPL Ref. | Monitoring location | Type of monitoring | Parameter | Frequency |
|----------|---|-----------------------|---|--------------------------------------|
| 24 | Mobile monitoring point within 5m of the outermost silt curtain near Berth101 | Ambient water quality | - TSS (via grab sample or determined using turbidity reading and appropriate correlation) | Daily during pile removal activities |

The piling barge arrived 9th September 2021, with monitoring undertaken at Point 24 thereafter during pile removal activities.

4.2.2 Continuous water quality monitoring results

A summary of the results for the continuous water quality monitoring in the harbour is presented below in Table 4-6. Further details for events above criteria as indicated below are provided in Appendix B.

Table 4-6 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 | | 25 ¹ / 50 ³ | N/A | Background +/- 0.5 pH units | Background +/- 20% (+ baseline) | Background - 20% (+ baseline) |
| WQM1 / EPL 1 | Average | 2.5 | 19.6 | 8.1 | 50368.4 | 97.8 |
| | Minimum | 1.4 | 17.5 | 8.0 | 28939.8 | 84.3 |
| | Maximum | 11.6 | 23.1 | 8.2 | 53101.9 | 132.5 |
| | Events above criteria ¹ | 0 | - | 0 | 0 | 0 |
| WQM2 / EPL 16 | Average | 2.2 | 19.0 | 8.2 | 52147.6 | 108.0 |
| | Minimum | 1.5 | 17.3 | 8.1 | 48110.9 | 94.1 |
| | Maximum | 8.0 | 21.5 | 8.3 | 52871.4 | 130.1 |
| | Events above criteria ¹ | 0 | - | 0 | 0 | 0 |
| WQM3 / EPL 17 | Average | 2.1 | 19.7 | 8.2 | 51237.4 | 102.2 |
| | Minimum | 1.2 | 17.8 | 8.1 | 37591.4 | 90.7 |
| | Maximum | 13.6 | 23.8 | 8.5 | 53096.9 | 134.3 |
| | Events above criteria ¹ | 0 | - | 0 | 0 | 0 |
| WQM4 / EPL 18 (Background) | Average | 2.0 | 19.0 | 8.2 | 52055.8 | 110.2 |
| | Minimum | 1.3 | 17.5 | 8.1 | 45172.7 | 96.0 |
| | Maximum | 9.0 | 22.4 | 8.3 | 53276.5 | 139.4 |
| WQM5 / EPL 19 (Background) | Average | 6.7 | 22.3 | 8.0 | 49606.6 | 102.3 |
| | Minimum | 1.5 | 17.9 | 7.9 | 34201.5 | 88.6 |
| | Maximum | 389.7 | 28.2 | 8.2 | 53242.5 | 126.3 |
| Mobile WQM / EPL 24 (Ambient) | Average | 1.24 | Parameters not required at this EPL Point | | | |
| | Minimum | 0.39 | | | | |
| | Maximum | 6.00 | | | | |
| | Events above criteria ³ | 0 | | | | |

¹Indicative value based on previous EPL's issued at Port Kembla indicate that 50 mg/l of suspended sediment is equal to 25 NTU (as per CWQMP).

²Includes individual number of times results exceeded background. Refer to Appendix B for report on results above criteria.

³Criteria applies to EPL 24 only based on the correlation of 50 mg/l of suspended sediment equal to 50 NTU as specified in the EPL.



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..**

Table 4-7 Harbour water quality – Weekly grab sample results summary

| Monitoring Location | Statistic | Aluminium | Anthracene | Arsenic | Benzo(a)pyrene | Cadmium | Chromium (total) | Cobalt | Copper | Lead | Mercury | Naphthalene | Nickel | Total PAHs | Total Suspended Solids (TSS) | Tributyltin | Zinc |
|-----------------------|------------------------------------|-----------|------------|---------|----------------|---------|------------------|--------|----------|----------|---------|-------------|--------|------------|------------------------------|-------------|---------|
| Unit | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | Ug/L | ug/L | ug/L | ug/L | mg/L | ug/L | ug/L |
| Criteria ² | | BL | 0.10 | BL | BL | 5.50 | 4.40 | 1.00 | 1.3 + BL | 4.4 + BL | 0.40 | 70.00 | 70.00 | NA | 50 + BG | 0.01 | 15 + BL |
| WQM1/ EPL 1 | Average | 54.00 | <0.1 | 5.40 | <0.1 | 0.46 | 5.20 | 4.60 | 4.60 | 4.60 | 0.07 | <0.2 | 4.60 | <0.1 | 2.80 | <0.002 | 22.00 |
| | Minimum | 20.00 | <0.1 | 2.00 | <0.1 | <0.1 | 2.00 | <1 | <1 | <1 | <0.05 | <0.2 | <1 | <0.1 | <1 | <0.002 | 3.00 |
| | Maximum | <100 | <0.1 | <10 | <0.1 | <1 | <10 | <10 | <10 | <10 | <0.1 | <0.2 | <10 | <0.1 | <5 | <0.002 | <50 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM2/ EPL16 | Average | 52.00 | <0.1 | 5.60 | <0.1 | 0.52 | 5.20 | 4.60 | 4.60 | 6.00 | 0.07 | <0.2 | 4.60 | <0.1 | 3.00 | <0.002 | 21.40 |
| | Minimum | <10 | <0.1 | 2.00 | <0.1 | <0.1 | 2.00 | <1 | <1 | <1 | <0.05 | <0.2 | <1 | <0.1 | 1.00 | <0.002 | <1 |
| | Maximum | <100 | <0.1 | <10 | <0.1 | <1 | <10 | <10 | <10 | <10 | <0.1 | <0.2 | <10 | <0.1 | <5 | <0.002 | <50 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM3/ EPL17 | Average | 54.00 | <0.1 | 5.40 | <0.1 | 0.54 | 5.20 | 4.60 | 4.60 | 4.80 | 0.07 | <0.2 | 4.60 | <0.1 | 3.40 | <0.002 | 22.40 |
| | Minimum | 20.00 | <0.1 | 2.00 | <0.1 | <0.1 | 2.00 | <1 | <1 | <1 | <0.05 | <0.2 | <1 | <0.1 | <1 | <0.002 | 3.00 |
| | Maximum | <100 | <0.1 | <10 | <0.1 | <1 | <10 | <10 | <10 | <10 | <0.1 | <0.2 | <10 | <0.1 | <5 | <0.002 | <50 |
| | Events above criteria ¹ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WQM4/ EPL18 | Average | 52.00 | <0.1 | 5.20 | <0.1 | 0.50 | 5.20 | 4.60 | 4.60 | 4.60 | 0.07 | <0.2 | 4.60 | <0.1 | 3.60 | <0.002 | 21.40 |
| | Minimum | 20.00 | <0.1 | 2.00 | <0.1 | <0.1 | 2.00 | <1 | <1 | <1 | <0.05 | <0.2 | <1 | <0.1 | 2.00 | <0.002 | <1 |
| | Maximum | <100 | <0.1 | <10 | <0.1 | <1 | <10 | <10 | <10 | <10 | <0.1 | <0.2 | <10 | <0.1 | <5 | <0.002 | <50 |
| WQM5/ EPL19 | Average | 72.00 | <0.1 | 5.20 | <0.1 | 0.48 | 5.20 | 4.60 | 4.80 | 4.60 | 0.07 | <0.2 | 4.80 | <0.1 | 5.00 | <0.002 | 25.20 |
| | Minimum | 30.00 | <0.1 | 2.00 | <0.1 | <0.1 | 2.00 | <1 | 1.00 | <1 | <0.05 | <0.2 | <1 | <0.1 | 3.00 | <0.002 | 6.00 |
| | Maximum | <100 | <0.1 | <10 | <0.1 | <1 | <10 | <10 | <10 | <10 | <0.1 | <0.2 | <10 | <0.1 | <5 | <0.002 | <50 |

¹Includes individual number of times results detected above criteria. Refer to Appendix B for report on results on criteria.

²BL = Baseline BG = Background (WQM4 / WQM5)



4.2.4 Water quality monitoring results – sediment basin discharge

During the reporting month, there were nine (9) authorised discharge events and zero (0) discharge events as a result of excessive rainfall (>43.5 mm in any 5-day period).

Refer to Section 4.3 for site weather monitoring details. The date of the discharge event is provided below in Table 4-8.

A summary of the water quality results for the authorised discharge event from the sediment basin is included below in Table 4-8 (continues over next page).

Table 4-8 Sediment basin discharge water quality – Pre-discharge and daily grab sample results

| Date of discharge/ sampling | Naphthalene | Acenaphthylene | Acenaphthene | Fluorene | Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benzo(a) anthracene | Chrysene | Benzo(b,j,k) fluoranthene | Benzo(a)pyrene | Indeno(1,2,3-c,d) pyrene | Dibenzo(a,h) anthracene | Benzo(g,h,i) perylene | Benzo(a) pyrene TEQ | Total PAH |
|--------------------------------|-------------|----------------|--------------|----------|--------------|------------|--------------|--------|------------------------|----------|------------------------------|----------------|-----------------------------|----------------------------|--------------------------|------------------------|-----------|
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| Criteria | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 8/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 11/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 12/11/2021 | <5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 |
| 13/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 19/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 22/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 23/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 25/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |
| 28/11/2021 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 |

NA = No licence limit



| Date of discharge/ sampling | Aluminium | Arsenic | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Nickel | Zinc | Tributyltin | TSS | pH | Oil & Grease |
|--------------------------------|-----------|---------|---------|----------|--------|--------|------|---------|--------|------|-------------|------|------|--------------|
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | mg/L | - | - |
| Criteria | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 50 | NA | Visible |
| 8/11/2021 | 90.00 | <1 | <0.1 | 3.00 | <1 | 1.00 | <1 | <0.05 | <1 | <0.1 | <0.002 | <1 | 7.60 | <5 |
| 11/11/2021 | 40.00 | <1 | <0.1 | 3.00 | <1 | 1.00 | <1 | <0.05 | <1 | <0.1 | <0.002 | 3.00 | 7.80 | <5 |
| 12/11/2021 | 30.00 | <1 | <0.1 | 3.00 | <1 | <1 | <1 | <0.1 | <1 | <5 | <0.002 | <5 | 7.74 | <5 |
| 13/11/2021 | 70.00 | <1 | <0.1 | 3.00 | <1 | 5.00 | <1 | <0.05 | 3.00 | <0.1 | <0.002 | <1 | 7.50 | <5 |
| 19/11/2021 | 50.00 | <1 | <0.1 | 3.00 | <1 | 2.00 | <1 | <0.05 | <1 | <0.1 | <0.002 | <5 | 7.20 | <5 |
| 22/11/2021 | 30.00 | <1 | <0.1 | 3.00 | <1 | <1 | <1 | <0.05 | <1 | <0.1 | <0.002 | 1.00 | 7.30 | <5 |
| 23/11/2021 | 30.00 | <1 | <0.1 | 3.00 | <1 | <1 | <1 | <0.05 | <1 | <0.1 | <0.002 | <1 | 6.70 | <5 |
| 25/11/2021 | 40.00 | <1 | <0.1 | 3.00 | <1 | <1 | <1 | <0.05 | <1 | 5 | <0.002 | <1 | 7.50 | <5 |
| 28/11/2021 | 20.00 | <1 | <0.1 | 3.00 | <1 | 2.00 | <1 | <0.05 | <1 | <0.1 | <0.002 | <1 | 7.50 | <5 |

NA = No licence limit



4.3 Weather station results

Under the EPL (Condition M5), 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 the Monitoring Location Plan in Appendix A. The monthly data obtained from the onsite weather station is provided below in Table 4-9.

Table 4-9 Site weather station monitoring results summary

| Parameter | Unit of measure | Monthly statistic | Result EPL Point 21 |
|-----------------------|--------------------------|-------------------|------------------------|
| Wind velocity | m/s (15min average) | Average | 4.32 |
| | | Minimum | 0.17 |
| | | Maximum | 12.33 |
| Wind direction at 10m | Degrees (1hr average) | Average | 182.21 |
| Rainfall rate | mm/hr (1hr average) | Average | 0.06 |
| | | Minimum | 0.00 |
| | | Maximum | 8.31 |
| Rainfall (Total) | mm | Monthly total | 41.00 |
| Temperature | Degrees Celsius | Average | 17.91 |
| | | Minimum | 12.10 |
| | | Maximum | 25.40 |
| Humidity | % | Average | 80.28 |
| | | Minimum | 32.80 |
| | | Maximum | 100.00 |



4.4 Drone Survey

A monthly drone flyover is being undertaken to obtain visual photographs of the Early Enabling Works footprint and wider harbour area. The survey of the MBD Site Compound and Emplacement Cell Construction Site produces high-resolution imagery. This allows for a qualitative assessment of visible impacts of sediment plumes (if any) and silt curtain condition and position amongst other markers.

The drone footage provides a visual representation of the ecological health of Port Kembla and will indicate if there are any visual issues requiring investigation, such as sediment plumes or excessive runoff. No issues were noted in this month's survey. Select photos are provided in Appendix C from the November 2021 survey.



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.

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



Page Size: 600 x 400
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 Meters
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1984
 Grid: GDA 1984 SGA Zone 58



Australian Industrial Energy
 Port Kembla Gas Terminal

Project No: 21-21877
 Revision No: A
 Date: 04/06/2021

EPL Licence Premises Stage 2A

FIGURE 1

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/m3) | Investigation & Actions |
|------------|----------|--------------------------|--|
| 1/11/2021 | EPL 9 | 55.67 | Elevated levels through middle of day as Northerly wind picks up to 10m/s. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW and SW of site. Continued water cart operation for dust suppression controlled onsite levels. |
| | EPL 11 | 63.50 | |
| 1/11/2021 | EPL 23 | 57.28 | Elevated levels through early morning with wind from the NW. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW of site. |
| 2/11/2021 | EPL 9 | 59.04 | Elevated levels through morning with NW wind. Continued water cart operation for dust suppression controlled onsite levels. |
| 2/11/2021 | EPL 23 | 102.98 | Elevated levels through early morning and late afternoon with wind from the NW. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the SW of site. |
| 3/11/2021 | EPL 9 | 61.33 | Elevated levels through middle of day as Northerly wind picks up to 10m/s. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW and SW of site. Continued water cart operation for dust suppression controlled onsite levels. |
| | EPL 11 | 80.67 | |
| 3/11/2021 | EPL 23 | 65.12 | Elevated levels through early morning and late afternoon with wind from the NW. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the SW of site. |
| 4/11/2021 | EPL 9 | 50.79 | Elevated levels continue from previous day in Northerly wind and drop off as wind speed reduces. Elevated levels also recorded at publicly available monitors to the SW of site. Continued water cart operation for dust suppression controlled onsite levels. |
| 6/11/2021 | EPL 11 | 54.58 | Elevated levels, peaking at 8am during Northly gusts. Elevated levels also recorded at publicly available monitors to the SW of site. Continued water cart operation for dust suppression controlled onsite levels. |
| 14/11/2021 | EPL 11 | 51.04 | Elevated levels throughout day from 10am during Westerly winds up to 12m/s. Assess dust controls upon return to site, mobilise water cart. |

| Date | Location | Exceedance value (ug/m3) | Investigation & Actions |
|------------|----------|--------------------------|--|
| 15/11/2021 | EPL 9 | 83.22 | Elevated levels throughout day during as WSW wind is consistently 10m/s. Continued water cart operation for dust suppression controlled onsite levels. |
| | EPL 11 | 65.71 | |
| 17/11/2021 | EPL 23 | 52.98 | Elevated levels in evening as wind turns NW. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW and SW of site. |
| 18/11/2021 | EPL 11 | 51.21 | Inconsistent wind direction during elevated levels, peaking when wind coming from Northerly direction in afternoon and wind speed picks up to 10m/s. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW and SW of site. Continued water cart operation for dust suppression controlled onsite levels. |
| 18/11/2021 | EPL 23 | 62.79 | Elevated levels continue from previous day with winds from the NW. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the SW of site. |
| 22/11/2021 | EPL 15 | 70.28 | Elevated levels throughout day during as SSE wind is consistently between 6-8m/s. Consistent with background readings. Elevated levels also recorded at publicly available monitors to the NW and SW of site. OH stockpiles being prepared for later polymer application (ongoing). |

Water Monitoring Events Above Criteria

| Date | Location | Recorded Value | Action Taken | Investigation Outcomes |
|--|----------|----------------|--------------|------------------------|
| No events above criteria in reporting period | | | | |

Appendix C – Drone Survey Images



Photograph 1: View of Outer Harbour stockpiles following polymer application and sediment controls.



Photograph 2: View of removed wharf apron and remaining wharf piles at Berth 101.

