



IXOM

NSW Department of Planning and Environment

2023 Annual Report

Prepared by: Benedick Pagarigan

Date: January 2024

Revision: 1.0

Table of Contents

1	Executive Summary.....	3
1.1	The following approvals are currently held or operated under by the Ixom Botany ChlorAlkali Plant	3
2	Introduction	4
2.1	Site Overview	4
2.2	Key Contacts for Environmental Management.....	4
3	Compliance Status Summary	5
4	Non-Compliances.....	6
5	Previous report actions.....	7
6	Incidents.....	7
6.1	Incidents Register.....	7
7	Complaints	7
7.1	Complaints Register	8
8	Independent Environmental Audit.....	9
9	Appendices	9
9.1	Appendix A – Production and Truck Movements	9
9.2	Appendix B – Environment performance	10
9.3	Appendix C – Compliance Table	15
9.4	Appendix D – Declaration.....	35
	Compliance Report Declaration form	35

1 Executive Summary

1.1 The following approvals are currently held or operated under by the Ixom Botany ChlorAlkali Plant

Table 1: Current approvals and licences

Approval No.	Date last varied	Details of any changes made during reporting period
DA 35/98	26-10-2018	No Change
EPL 20547	19-05-2020	No Change
MHF 10358-01	22-12-2020	No Change. Renewal.
NDG201314	12-11-2023	Notification of Hazardous Chemicals on Premises is now done independently by IXOM (previously by BIP).

IXOM Operations Pty Ltd, Botany ChlorAlkali Plant (CAP) is required to provide an Annual report to DPIE as per condition 47 and 48 of DA 35/98. The last variation of the DA 35/98 was on 26 October 2018, MOD 5 – Repack Facility. CAP is located within the Botany Industrial Park (BIP) in Sydney, New South Wales.

This Annual report covers the period between 1 December 2022 to 30 November 2023 and is following the Compliance Reporting – Post Approval Requirements (CRPAR) guidelines issued May 2020. The report presents those relevant conditions pertaining to the current operations of the plant.

In summary, the self-assessment Annual report as follow;

- There were no non-conformances identified during the reporting period.
- No complaints were recorded from residential or industrial neighbours.
- No issues were identified or raised in relation to environmental performance such as noise or air monitoring.
- Production and truck movements have slowed down a little but expect to pick up again next year. This is normal variation.
- There were no reportable incidents during the reporting period.
- Effluent discharge decreased from last year due to the reduction of breakdowns. The reduction of shutdowns in 2023 reduced the brine purge from start-ups.

2 Introduction

2.1 Site Overview

Table 2: Site Details

Project Name and DA number	Replacement of Chlor-Alkali Plant at Botany, DA35/98 (Ref. R98/00010)
Site Address	16-20 Beauchamp Road, Matraville NSW 2036
Industrial Complex	Botany Industrial Park (BIP)
Local Government Authority	City of Sydney
Site Area	BIP – 70 hectares Site – 23 hectares
Locality Map	Appendix A
Site Plan	Appendix A
Current Use	Botany ChlorAlkali Plant
Lot No.	LOT 1101 DP 1227173, LOT 1102 DP 1227173, LOT 1103 DP 1227173, LOT 1104 DP 1227173, PART LOT 1115 DP 1227173
Site Owner	Orica Limited owns approximately 40% of land at the BIP
Reporting Period	1 December 2022 – 30 November 2023

The facility manufactures chlorine and caustic soda from the electrolysis of salt. Hydrogen is produced as a by-product. The four main products produced are sodium hypochlorite (referred to as 'Hypo'), hydrochloric acid, caustic soda and ferric chloride.

The chlorine produced on site is used in the manufacture of hydrochloric acid, hypo and ferric chloride, with these downstream processes being collectively referred to as product plants. All chlorine produced at Ixom Botany ChlorAlkali facility is consumed in the product plants.

The plant can produce 31,200 tonnes per annum (TPA) of chlorine assuming 95% uptime. All chlorine is reacted to produce the following product range:

- HCl (~45,000 TPA)
- Hypo (~60,000 KLPA)
- Ferric chloride (~15,000 TPA)
- Sodium hydroxide (Caustic ~36,000 TPA as 50%) (co-product of chlorine manufacturing process).

2.2 Key Contacts for Environmental Management

Table 3: Environmental Contacts for Ixom Botany ChlorAlkali Plant

Name	Position	Contact Details
Ben Smith	Head of Manufacturing – Botany CAP	02 9352 2254 0456 917 739 Ben.Smith@ixom.com
Ben Pagarigan	Compliance Manager - Botany	02 9352 2123 0476 410 458 Benedick.Pagarigan@ixom.com
Richard Benson	Environmental Advisor and BIP Environment & Community Manager	02 8336 1357 0409 558 127 Richard.Benson@qenos.com

3 Compliance Status Summary

Table 4: Summary of Non-compliances

Approval No.	Number of Non-Compliances	Identified During
DA 35/98	No Non-compliances identified	
EPL 20547	No Non-compliances identified	

Table 5: Monitoring Methodology (Relevant Conditions)

Approval No.	Conditions	Monitoring Methodology	Evidence and Comments
DA 35/98	11	Ongoing Hazards Management – Hazard Analysis due every 3 years	Compliant – QRA conducted on December 2021; Due December 2024
	12	Incident Reporting	Compliant - Refer to Section 6
	13	Hazard Audit – Required 3 every 3 years	Compliant – Audit conducted on March 2021; Due May 2024
	24	Independent Environmental Audit – Required every 3 years	Compliant – Audit conducted on December 2022; Due December 2025
	47	Annual report - Commercial Traffic Movements	Compliant - See Appendix A
	48	Annual report - Environmental performance	Compliant - See Appendix B
	48	Annual report - Community Complaints	Compliant - Refer to section 7

Appendix C contains the Compliance Table. Section 4 shows the non-compliances identified during the reporting period.



4 Non-Compliances

No non-compliance was identified during the reporting period, 1 December 2022 – 30 November 2023. However, a warning letter was received by IXOM from Department of Planning on May 5, 2023 due to the previous year's non-compliance.

5 Previous report actions

Previous report actions which have been undertaken during the reporting period.

Table 7: Actions required from previous Annual Review

Actions required	Source	Progress	Comments
Update the Fire Safety Study and where necessary the IXOM Fire Risk Management Plan based on the updated Fire Safety Study.	2022 IEA	On-going (Due June 30, 2024)	Agreed with Botany Industrial Park to update the BIP Fire Study. Fire Study will be done in phases. Ixom will update the Fire Safety Study in 2024.
IXOM to advise landlord (Orica) of non-compliance with respect to the sealing and line marking requirements of Schedule 2 CoA 18 in relation to the visitor's carpark and request maintenance be undertaken to address the identified non-compliance.	2022 IEA	Completed	Orica repaired and painted the parking in front of the Administration Building.

6 Incidents

During the reporting period there were no incidents or non-compliances against the conditions of any relevant permit, license or approval for the Ixom Botany ChlorAlkali Plant.

6.1 Incidents Register

Table 8: Incidents Register

Nature of incident	Relevant conditions	Date of incidents	Status of Report
No reportable incidents for the reporting period.			

7 Complaints

During the reporting period there were no incidents or non-compliances against the conditions of any relevant permit, license or approval for the Ixom Botany ChlorAlkali Plant

The Botany Industrial Park (BIP) maintains an up-to-date website for the public that provides the following information:

- Minutes of the BIP Community Consultative Committee (BIPCC)
- Community Hotline
- Contacts for Regulators
- Items of interest including updates where appropriate.
- Commitments to Safety

Ixom maintains an up-to-date public website that provides the following information:

- Information about the Botany ChlorAlkali plant
- Details of Licence conditions
- Contact details for more information on the facility
- Map of licensed discharge points
- Results of monthly air quality monitoring
- Safety Management system
- Emergency Response including PIRMP
- Actions for the public to take in the event of an emergency
- Pollution Notification Process

There were three BIPCCC meetings held in the reporting period, on 8th March 2023, 7th June 2023 and 9th October 2023. Ben Smith, Botany Head of Manufacturing attended the meeting on March 2023, and Carl Byron, Botany Operations Manager, attended as representative for Ixom on October 2023.

No public complaint recorded against Ixom via community hotline during the reporting period.

7.1 Complaints Register

Table 8: Complaints Register

Nature of complaints	Relevant conditions	Date of complaint	Status of Report
No complaints recorded against Ixom			

8 Independent Audits

There were no Independent Audits (3 Yearly Hazard Audit and 3 Yearly Independent Environmental Audit) conducted during the reporting period.

9 Appendices

9.1 Appendix A – Production and Truck Movements

9.1.1 Production Metrics

The period covered by this report saw a slight decrease in output compared to the previous year and slightly lower than forecast. The period covered by this report saw a slight increase in production compared to the previous year and slightly above forecast. The plant achieved an uptime rate of 89% vs 87% in the last reporting period.

Truck movements have slightly decreased in 2023 as with slightly lower in production in the 2023 reporting period. Table 9 and Figure 1 show a summary of key metrics for the facility over this reporting period compared to previous years.

Table 9: Production Metrics Summary

Reporting Requirement	Limit	Previous reporting period (2022 actual)	This reporting period (2023 actual)	Next reporting period (forecast)
Traffic movements into and out of site	N/A	19,504	18,802	18,996
Hours spent by loaded chlorine road tankers on site	4380	0	0	0
Production (100% caustic)	N/A	29,798	28,870	29,168

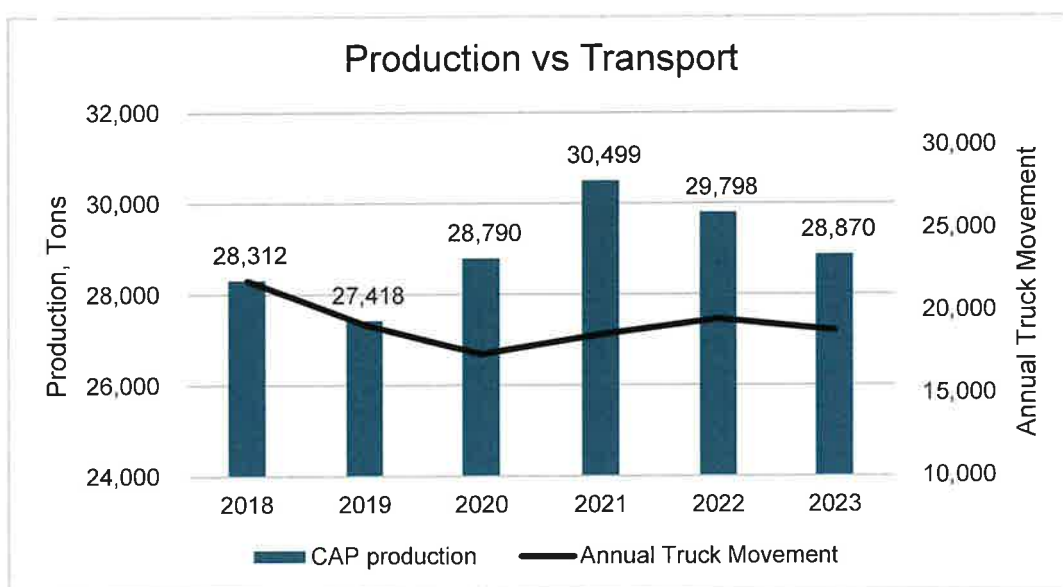


Figure 1: Truck Movements vs Production

9.2 Appendix B – Environment performance

9.2.1 Environmental Performance table

Table 10 details the key environmental performance parameters for the Ixom Botany ChlorAlkali Plant.

Table 10: Environmental Performance

Aspect	Approval criteria / EIS prediction	Performance during the reporting period	Trend / key management implications	Implemented/proposed management actions
Noise	<p>Day – 65 LAeq Evening – 55 LAeq Night - 50 LAeq</p> <p>(Limits from EPL 20547, Section L4.2).</p> <p>Monitoring location 8 in the noise report, is the only location the receiver is impacted by Ixom Operations</p>	<p>Compliant.</p> <p>Noise monitoring from December 2022 to November 2023 was undertaken by Wolfpeak Pty Ltd</p> <p>From the reports, the samplings at location 8 were observed to be below 50 dB(A) LAeq (15minute) when measured at the nearest residential receiver and complied with the applicable EPL conditions.</p>	<p>Based on the report comments the high results were dominated by sources not related to site Ixom operations. The main contributors were passing traffic (mostly dominant)</p>	No action required
Air quality	<p>There are 3 licenced discharge points at the Ixom Botany ChlorAlkali plant:</p> <p>Point 1 (Figure 2) Hypochlorite Backing Tower. Discharge limit = 200mg/m³ Chlorine, Monitored Continuously</p> <p>Point 2 Absorption Tail Tower. Discharge limit = 30mg/m³ Hydrogen Chloride. Measured quarterly</p> <p>Point 3 (Figure 3) Emergency Chlorine Vent. No discharge limit in EPL, statutory limit from Schedule 4 of the POEO act of 200mg/m³ used for reference. Monitored Continuously</p>	<p>Compliant.</p> <p>Air quality data is reported on the Ixom website each month and is included as the weblink in this section of the report.</p>	<p>Results are consistent with that of previous years. See graphs below.</p>	No action required
Water	See Section 9.2.3 of this report			
Biodiversity	The EIS identified that there was no expected impact on Biodiversity from the operation of the Ixom Botany ChlorAlkali Plant	No impact	None identified	No action required

Heritage	The EIS identified that there was no expected impact on Aboriginal, Natural or Urban Heritage items, relics or places from the operation of the Ixom Botany ChlorAlkali Plant	No impact	None identified	No action required
Flora and Fauna	The EIS indicated that no flora or fauna were expected to be directly affected by the operation of the Ixom Botany ChlorAlkali Plant	No impact	None identified	No action required
Amenity	<p>The premises and operations shall be conducted in such a manner as not to interfere with, or materially affect, the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust, waste water, waste products, grit, oil, or otherwise.</p> <p>The occupier of the premises shall not cause, permit, or allow the emission of any odorous air impurity from the development such that it can be detected outside the property boundaries by its odour.</p> <p>(DA 35/98 conditions 37 and 38)</p>	<p>Compliant.</p> <p>There were no instances of material harm affecting the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust or waste products.</p> <p>There were no reports of odorous material from the development detected outside the property boundaries.</p> <p>There were no community complaints received in the reporting period related to the Ixom Botany ChlorAlkali Plant or its operation.</p>	None identified	No action required

9.2.2 Air Monitoring

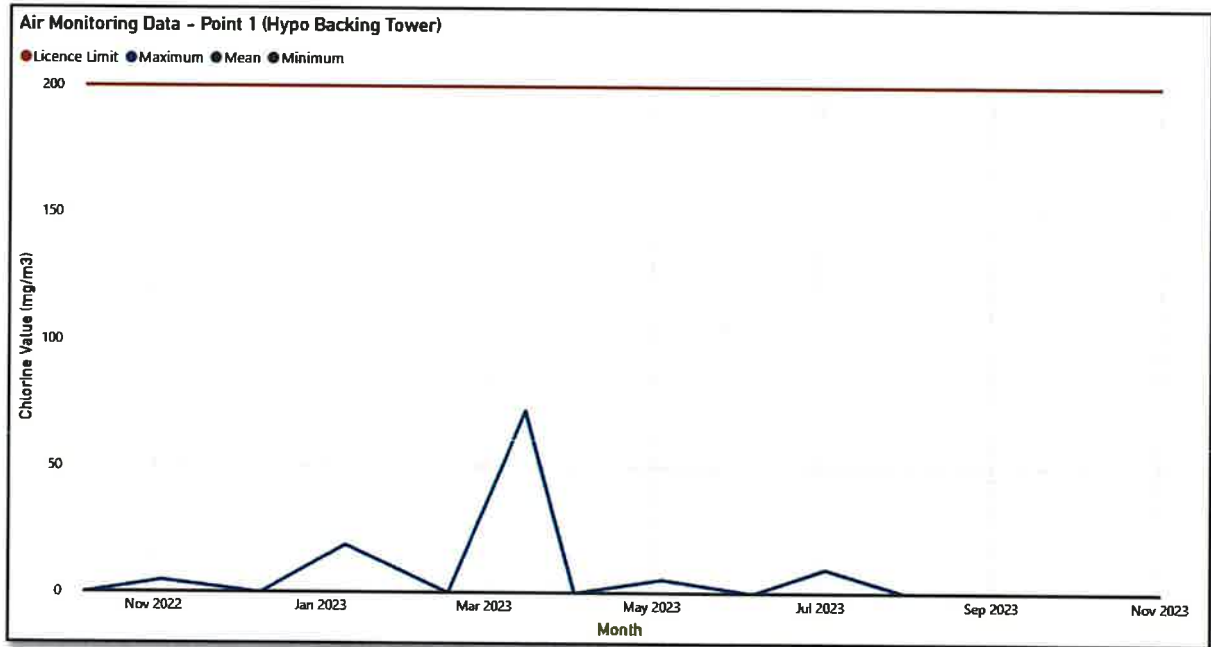


Figure 2: Point 1 Air Monitoring Data November 2022 - November 2023

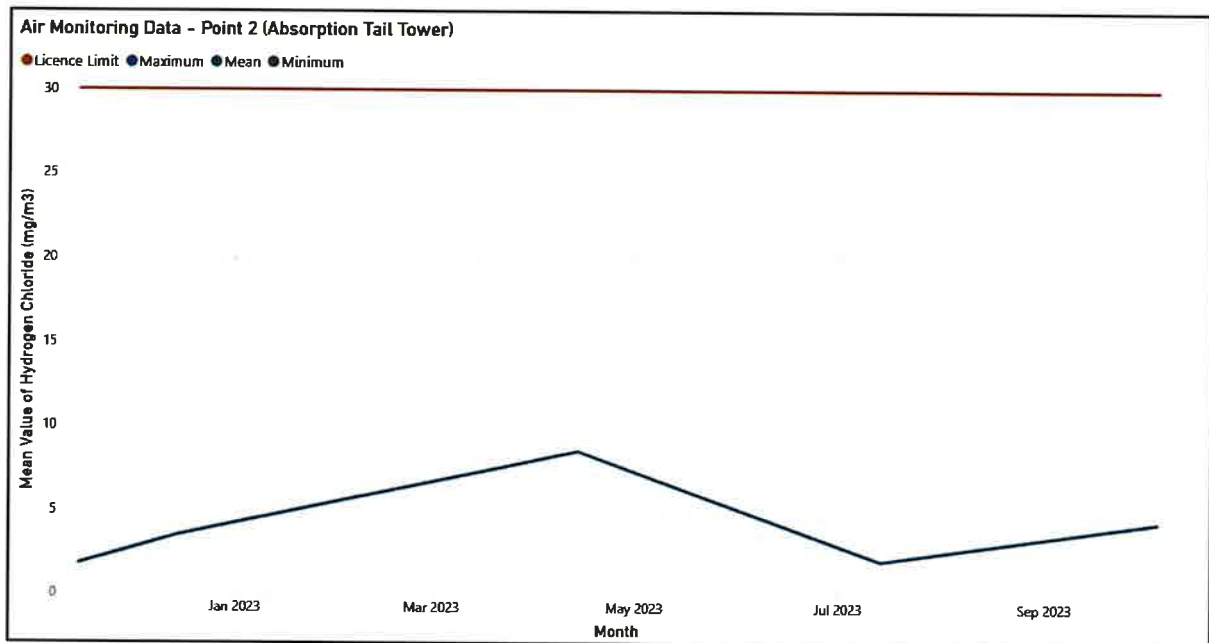


Figure 3: Point 2 Air Monitoring Data November 2022 - November 2023

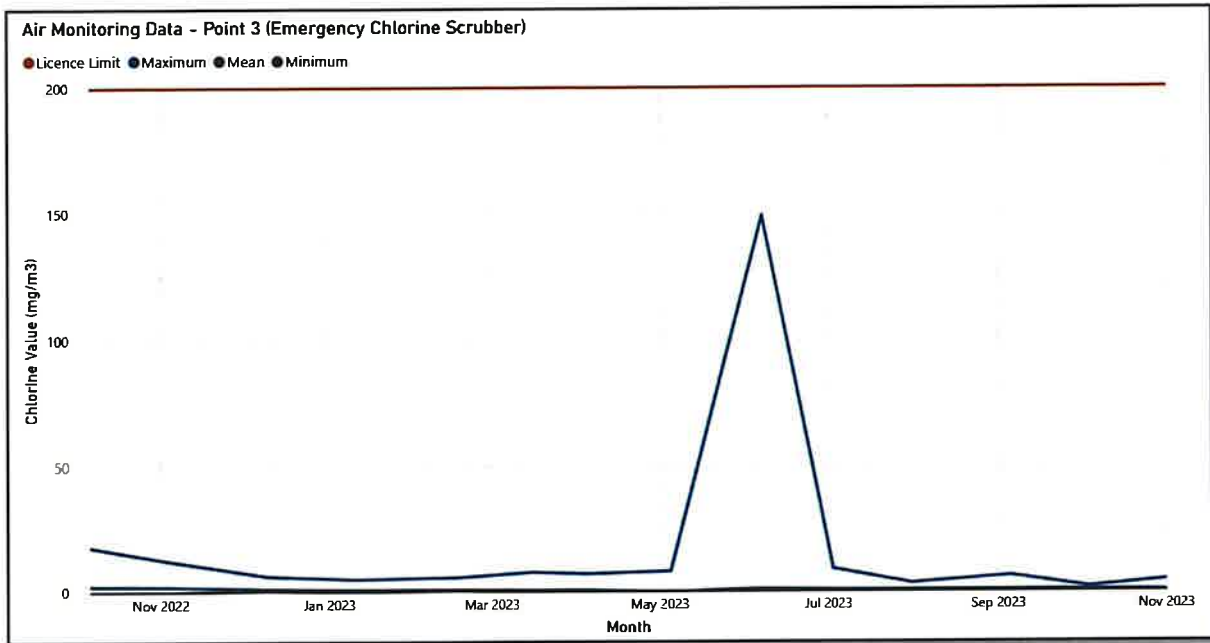


Figure 4: Point 3 Air Monitoring Data November 2022 - November 2023

* Statute limit as per Schedule 4 of POEO (Clean Air) Regulation

Note: Historical data is available through the Ixom website: <https://www.ixom.com/being-responsible/environmental-monitoring-data/botany>

9.2.3 Water Usage

Potable water is supplied to the Ixom Botany site through the BIP Site Utilities. Water usage for the reporting period is shown in Table 11.

Table 11: Water Usage

Metrics	Previous Reporting Period (Dec 2021 – Nov 2022)	Current Reporting Period (Dec 2022 – Nov 2023)
Potable Water Consumed (KL)	116,089	133,924
Recycled Water Consumed (KL)	108,319	81,773
Water Incorporated in Product (KL)	136,914	131,328
Effluent Discharged to BIP Trade-Waste System (KL)	91,767	66,942

The effluent discharged decreased significantly due to the amount of rainfall received in 2023. The reduction of shutdowns in 2023 reduced the brine purge from start-ups.

The Site Stormwater and Effluent System are managed by BIP Site Utilities.

Effluent from the Ixom ChlorAlkali Plant is collected and processed in one of two automated effluent treatment tanks. These tanks each accumulate the plant effluent then dose acid or caustic into the tanks to control the pH to a consistent and acceptable level. When the target

pH is achieved, the tanks are discharged to the EP6 effluent collection pit where flow and pH are continuously measured and recorded. The effluent then joins the other effluent streams from the other facilities at the Botany Industrial Park and flows to the Site Utilities effluent system. In this facility, the effluent is monitored, and the pH adjusted where required to achieve permissible effluent standards before discharge from site.

The stormwater from the facility is collected through clearly labelled stormwater drains and flows to the Site Utilities stormwater system. The stormwater is continuously monitored for flow and pH. If the pH of the stormwater exceeds the permissible limits, the stormwater is automatically diverted to the Site Utilities effluent system where it is further treated through a pH adjustment in order to meet the required specifications prior to discharge.

Figure 5 shows the monthly effluent discharge for the reporting period.

9.2.4 Effluent Discharge

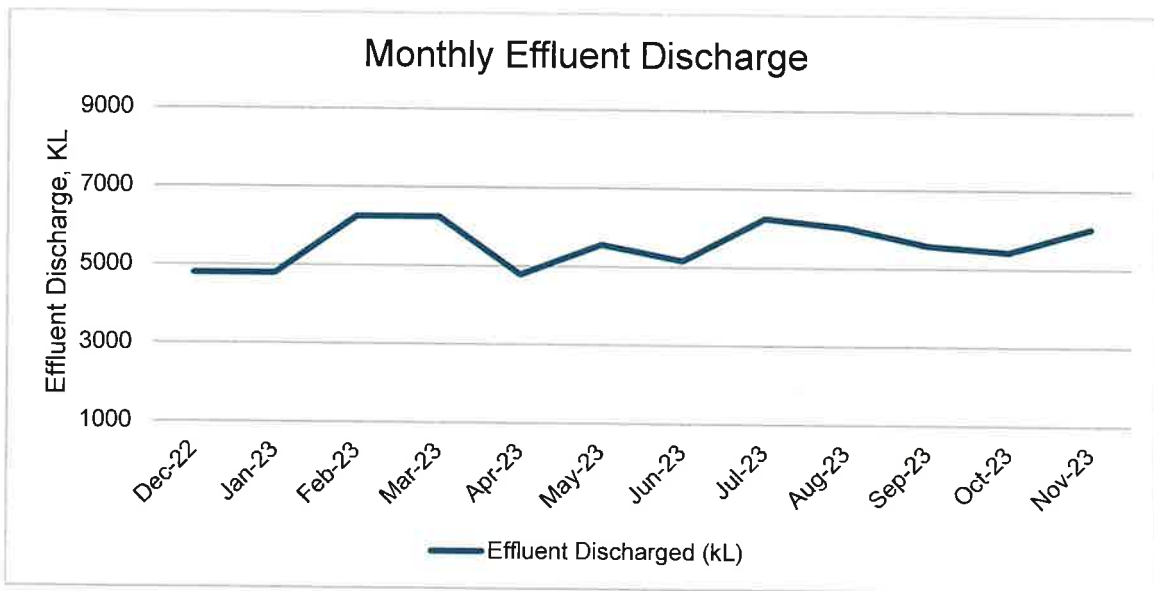


Figure 5: Effluent Discharged from Ixom CAP - Monthly

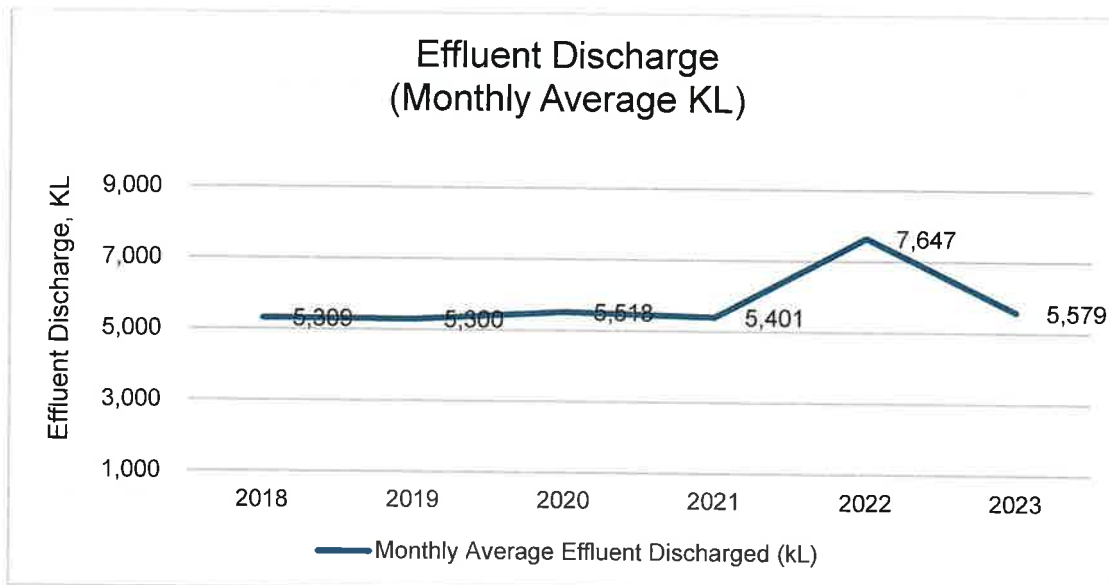


Figure 6: Year on year change in effluent discharged from site

9.3 Appendix C – Compliance Table

Compliance Status Descriptors

Compliant Sufficient verifiable evidence to demonstrate that all elements of the requirements have been complied with.

Non-compliant A non-compliant with one or more elements of the requirements

Not triggered A requirement has an activation or timing trigger that has not been met at the phase of the development when the compliance assessment is undertaken, therefore an assessment of compliance is not relevant.

Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2 CoA 1	<p>The Applicant must carry out the development generally in accordance with:</p> <ul style="list-style-type: none"> a) the Environmental Impact Statement dated June 1998, prepared by Dames & Moore Pty Ltd and drawing number B73359 RevA; b) modification application MOD-180-11-2005-i with respect to replacement of the sodium hypochlorite loading bays; upgrade of sodium the hypochlorite tank farm; and replacement of the technicians' changing room; and c) modification application MOD-12-1-2006 with respect to the demolition of the decommissioned Chlor/Alkali plant buildings at the Botany Industrial Park; d) the letter to the Department dated 4 May 2006 prepared by Robert Evans, Site Environment Engineer, Orica relating to hazard reduction measures; e) MOD 3 to relocate the sodium hypochlorite plant; f) modification application 35/98 Mod 4, in relation to replacement of caustic tanks lodged with the Department of Planning and Infrastructure on 13 April 2012 and accompanied by an environmental assessment prepared by Parsons Brinckerhoff dated May 2012; and g) modification request 35/98 MOD 5, including supporting documentation prepared by IXOM Operations Pty Ltd dated 27 June 2018; 31 August 2018 and 9 October 2018; and h) the conditions of this consent. 	At all times	Refer to audit evidence associated with the 2022 IEA as documented against each of the conditions of approval associated with Schedule 2 of Development Consent 35/98 as presented in this audit checklist.	Compliant
Schedule 2 CoA 1A	If there is any inconsistency between the plans and documentation listed under Condition 1 above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.	At all times		Not Triggered
Schedule 2 CoA 1B	The Applicant must construct the spill containment area of the caustic tanks in accordance with: AS 3780-2008 The storage and handling of corrosive substances.	Construction		Not Triggered
Schedule 2 CoA 1C	In addition to meeting the specific performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise harm to the environment that may result from the development.	At all times	EPA Annual Report submitted to the EPA. Internal procedure to conduct annual due diligence check and 3-yearly legal review of the annual report.	Compliant

Schedule 2 CoA 1D	The Applicant must comply with all written requirement(s) of the Planning Secretary arising from the Departments assessment of: (a) Any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents); and (b) The implementation of any actions or measures contained within these documents.	At all times	IXOM 2022 Annual Report for DPIE (January 2023, Rev 1.0).	Compliant
Schedule 2 CoA 1E	The Applicant must ensure all buildings and structures, and any alterations or additions to the existing buildings and structures are constructed in accordance with the relevant requirements of the National Construction Code.	Construction	IXOM Chlor-Alkali Facility Independent Environmental Audit 2022. Bayside Council Occupation Certificate dated 31 March 2020 (Certificate Number: CC- 2019/72) for Chemical Repack Facility.	Compliant
Schedule 2 CoA 2	At no time must the existing Chlor-alkali plant and the proposed Chlor- alkali plant operate simultaneously.	At all times		Not Triggered
Schedule 2 CoA 3	The existing bulk chlorine storage tanks must be purged no later than 6 months after the date of commissioning of the proposed development.	Within 6 Months After Commissioning		Not Triggered
Schedule 2 CoA 4	Within 6 months from the date of this consent, the Applicant must prepare for the approval of the Secretary a report detailing the proposed timetable and procedures for decommissioning the existing Chlor-alkali plant and commissioning of the proposed Chlor-alkali plant.	Within 6 Months After Commissioning		Not Triggered
COMPLIANCE				
Condition of Consent		Compliance Requirement		Compliance Status
Schedule 2 CoA 5	The Applicant must comply with all the reasonable requirements of the Secretary of Urban Affairs and Planning (the Secretary) in respect of the implementation of measures arising from the following conditions of development consent. Further, the Applicant must bring to the attention of the Secretary any matter that may require further investigation and the issuing of instructions from the Secretary. The Applicant must implement those instructions to the satisfaction of the Secretary within such time as the Secretary may specify.	At all times		Not Triggered
Schedule 2 CoA 6	The Applicant must meet reasonable requirements of all public authorities having statutory responsibilities in respect of the proposed developments.	At all times	SafeWork NSW Licence to operate a major hazard facility. Licence Number: 20-15-61, date granted 22 December 2020, expiry date 23 December 2023, facility number 20-15. Submitted MHF Safety case in June 2023; Post Licence verification conducted in December 5, 2023. Awaiting Safework feedback on Ixom's MHF Licence. IXOM – Risk Based Licensing Documents (7 June 2021 email with attachments sent to NSW EPA.	Compliant

COMPLIANCE REPORTING			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2 CoA 7	<p>PRE-CONSTRUCTION At least one month prior to the commencement of substantial construction, or within such period as otherwise agreed by the Secretary, the Applicant must submit for the approval of the Secretary a compliance report detailing compliance with all the relevant conditions that apply prior to the commencement of substantial construction. The pre-construction compliance report should include:</p> <ul style="list-style-type: none"> (a) the dates of submissions of the various studies and, or requirements of various conditions, and of their approvals and terms of approvals; (b) action taken or proposed to implement the recommendations made in terms of approvals and/or studies. 	Pre-construction	NSW EPA issued Environment Protection Licence (EPL) 20547. Notification of Hazardous Chemicals on Premises (dated 12 November 2023, NDG201314)
Schedule 2 CoA 8	<p>PRE-STARTUP The Applicant must submit to the Secretary a report detailing compliance with Conditions 9 and 10(a) one month prior to the commencement of operation of MOD 3.</p>	Pre-startup	
HAZARD MANAGEMENT			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2 CoA 9	<p>PRE-CONSTRUCTION Prior to commencement of construction of MOD 4 the Applicant must prepare a Construction Safety Study consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 7 'Construction Safety Study Guidelines'.</p>	Pre-construction	

Schedule 2 CoA 10	<p>PRE-OPERATION At least two months prior to the commencement of operation of the proposed development, or within such further period as the Planning Secretary may agree, the Applicant must prepare and submit for the approval of the Secretary:</p> <p>(a) Emergency Plan Prior to commissioning MOD 3, the Applicant must develop a new or updated Emergency Plan. The plan must be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 1 'Industry Emergency Planning Guidelines'.</p> <p>(b) Safety Management System A comprehensive safety management system, covering all operations on-site and associated transport activities. The system should clearly specify all safety related procedures, responsibilities and polices, along with details of mechanisms for ensuring adherence to procedures. Records must be kept on-site and should be available for inspection by the Planning Secretary upon request. The Safety Management System should be developed in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 9, Safety Management. Where there is an existing plant or site system, the condition of consent will be considered satisfied by the updating of that system.</p> <p>The Safety Management System shall also detail the procedures for testing and ensuring continuous time and date functionality of all systems including embedded systems associated with the Chlor-alkali and Derivatives complex.</p>	Pre-operation	Not Triggered
HAZARDS AND RISKS			
Schedule 2 CoA 10A	<p>PRE-CONSTRUCTION Prior to the completion of detailed design, the applicant must consult with SafeWork NSW on the identification and implementation of the controls to reduce risks so far as reasonably practicable.</p>	Pre-construction	Not Triggered
HAZARDS AND RISKS			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
		Compliance Status	

<p>Schedule 2 CoA 10B</p>	<p>The Applicant must prepare the studies set out under (a) and (b) below (the pre-construction studies). Construction, other than of preliminary works that are outside the scope of the hazard studies, must not commence until the study recommendations have been considered and, where appropriate, acted upon. The Applicant must submit the studies to the Planning Secretary no later than one month prior to the commencement of construction of MOD 5 (other than preliminary works), or within such further period as the Planning Secretary may agree: (a) CONSTRUCTION SAFETY STUDY Construction Safety Study for the MOD 5, prepared in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety' guideline. The study must include and not be limited to identifying hazards and safeguards relevant to commissioning of the Repack facility. (b) HAZARD AND OPERABILITY STUDY A Hazard and Operability Study for MOD 5, chaired by a qualified person, independent of the modified development, approved by the Planning Secretary prior to the commencement of the study. The study must be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Applicant intends to defer the implementation of all recommendations made in the report, if the Applicant intends to defer the implementation of a recommendation, reasons must be documented. The study must be based on the detailed design of the facility and sufficiently cover all MOD 5 processes, including the operation of existing tanks, plant and equipment.</p>	<p>Pre-construction</p>	<p>Not Triggered</p>
<p>Schedule 2 CoA 10C</p>	<p>PRE-COMMISSION Prior to operating the new operation under MOD 5, the Applicant must implement the controls required to reduce risk so far as is reasonably practicable.</p>	<p>Pre-commission</p>	<p>Not Triggered</p>
<p>Schedule 2 CoA 10D</p>	<p>Prior to commissioning, the Applicant must update the Fire Safety Study under Condition 9, and the Emergency Plan and Safety Management System under Condition 10 to include all aspects relevant to MOD 5. Commissioning must not commence until Fire Safety Study recommendations have been considered and, where appropriate, acted upon.</p>	<p>Pre-commissioning of MOD 5</p>	<p>Although not part of this year's reporting scope, the recent Independent Environmental Audit picked this as a non-compliance. There is an existing action to close this item.</p>
<p>Schedule 2 CoA 10E</p>	<p>The Applicant must comply with all reasonable requirements of the Planning Secretary on the implementation of any measures arising from the studies in respect of Conditions 10B and 10C within such time as the Planning Secretary may agree.</p>	<p>At all times</p>	<p>IXOM Chlor-Alkali Facility Independent Environmental Audit 2022. Velocity EHS (IXOM's database and task management system) for MOC-20181220-005 New Botany Repack Facility – Status Log.</p>

BUILDING HEIGHT Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2 CoA 11	<p>ONGOING HAZARDS MANAGEMENT</p> <p>Three years after the commencement of operations of the proposed development or within such further period as the Secretary may agree, the Applicant shall update the hazard analysis for the Chlor-alkali and derivatives complex at the Applicant's expense. This analysis shall be forwarded to the Secretary for approval. Further updates will be required every three years or as may be requested by the Secretary. The analysis shall be prepared in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 6, Guidelines for Hazard Analysis. This report shall cover individual fatality, injury and irritation risk and societal risk using the most recently available population and meteorological data.</p> <p><i>Note: the Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of any measures arising from the studies undertaken as a result of Condition 11 and shall implement those instructions to the satisfaction of the Secretary within such time as the Secretary may specify.</i></p>	Post Approval - 3 Yearly	Refresh of QRA is scheduled on December 2024.	Not Triggered
Schedule 2 CoA 12	<p>INCIDENT REPORTING</p> <p>Within 24 hours of any incident or near incident with actual or potential significant off-site impacts on people or the biophysical environment, a report must be supplied to the Department outlining the basic facts. A further detailed report must be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures.</p>	At all times	IXOM Annual Returns (AR) submitted to EPA for EPL 20547: AR (19 Feb 2022 – 19 Feb 2023) No reportable incident during the reporting period.	Compliant
Schedule 2 CoA 13	<p>HAZARD AUDIT</p> <p>Twelve months after the commencement of operations of the proposed development or within such further period as the Secretary may agree, the Applicant shall carry out a comprehensive hazard audit of the proposed development and submit a report on the audit to the Secretary. This audit is to be carried out at the Applicant's expense by a duly qualified independent person or team to be approved by the Secretary. Further audits will be required every three years or as may be requested by the Secretary. Hazard audits should be carried out in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 5, Hazard Audit Guidelines. The audit shall also contain confirmation that time and date functionality of all systems have been tested in accordance with the Safety management System specified in condition 10(b).</p>	Post Approval - 3 Yearly	Hazard Audit conducted in 2021; Hazard Audit is due to be completed this May 2024.	Compliant

Schedule 2 CoA 14	<p>Prior to lodging an application for construction, the Applicant must seek the approval of Sydney Airport Corporation and the Civil Aviation Safety Authority (CASA) in respect of any structure, inclusive of vents, chimneys, aerials, TV antennae and construction which exceeds the height at which approval is required under the Civil Aviation (Buildings Control) Regulations. This includes any temporary structure and/or equipment planned to be used during construction. This application must include the following information:</p> <p>(a) The nature of the proposed structure/activity (b) The proposed location of the structure/activity relative to Mapping Grid of Australia 1994 (MGA94) (c) The maximum overall height of the proposed structure/activity relative to Australian Height Datum (AHD) (d) The purpose for which the structure/activity is intended to be used (e) The maximum height, relative to AHD of any temporary structure or equipment including construction cranes, intended to be used in the erection of the proposed building/structure (f) The period of the proposed operation and desired operating hours for any temporary structures.</p>	Pre-approval	Not Triggered
TRAFFIC AND TRANSPORT			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2 CoA 15	No later than two months prior to the commencement of commissioning of the proposed development, or within such further period as the Secretary may agree, the Applicant must prepare and submit for the approval of the Secretary a Traffic Management Plan (TMP) outlining management measures to ensure that road tanker drivers will predominantly use the main arterial roads - namely Foreshore Drive, General Holmes Drive and Wentworth Avenue, except for local deliveries. The Applicant must endeavour to enter into contractual arrangements with transport companies to require their trucks to use the routes determined under the TMP.	2 months prior to commencement	Not Triggered
Schedule 2 CoA 16	On-site parking shall be provided for all vehicles associated with the operation and construction of the proposed development. This shall include vehicles transporting equipment, materials, contractors and workers. Under no circumstances shall vehicles transporting equipment or materials queue or park in neighbouring streets.	At all times	Site observations by IEA Auditor on 10 October 2022 BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) IXOM Environmental Management Plan (Document Number: SHE-BOT-MGT-ENV-001. Scope of Application: Botany CAP, Revision: 3, Issued: 21 st July 2022).
Schedule 2 CoA 17	No more than one full (13 tonne) road tanker of chlorine must be parked on site at any given time. The total amount of time a full road tanker is present on site must not exceed 4380 hours in any 12-month period. The tanker is to be parked in a dedicated area away from any main thoroughfare.	At all times	IXOM 2021 Annual Report for DPE (January 2023, Rev 1.0). Chlorine Inventory Monitoring
			Compliant
			Not Triggered

Schedule 2 CoA 18	All parking spaces must be drained, sealed and line marked to the satisfaction of Botany Bay City Council.	At all times	Site parking in front of Orica Administration Building was repaired and painted.	Compliant
ENVIRONMENTAL MANAGEMENT				
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2 CoA 19	One month prior to commencement of construction work, the Applicant must prepare an Environmental Management Plan (EMP) in consultation with the Environmental Protection Authority (EPA) and Department of Land and Water Conservation (DLWC) for the approval of the Secretary. The EMP must be implemented during the construction phase of the upgrade to the satisfaction of the Secretary. The EMP should be submitted as a supporting document for the application of the Pollution Control Approval from the EPA.	Pre-construction		Not Triggered
Schedule 2 CoA 19A	Prior to the commencement of any demolition associated with MOD-12- 1-2006, the Applicant must update and implement the EMP (referred to in condition 19 above) to include a program for daily monitoring at atmospheric mercury concentrations for the demolition works. The program must include procedures for immediate stoppage of the offending activity on detection of emission levels exceeding the limit under the POEO (Clean Air) Regulations, of 0.2 mg/cubic metre. Work must not recommence until remedial measures have been initiated to the satisfaction of the Planning Secretary and the DEC.	Before demolition		Not Triggered
Schedule 2 CoA 19B	Prior to the commencement of the construction of MOD 4, the Applicant must prepare a Construction Environmental Management Plan (CEMP) (in consultation with the EPA and to the satisfaction of the Secretary). The CEMP must reflect the works proposed as part of MOD 4 and shall include: (a) the results of the recent soil sampling undertaken by Orica and documented in the Figure titled Orica Botany Caustic Tank Project and dated 02/08/2012; (b) measures, such as additional sampling and/or remedial measures, to manage any areas of shallow soil contamination; (c) details of the management strategy for the handling, treatment and disposal of any contaminated material; (d) a defined heavy vehicle route restricted to the arterial road network and contractor induction requiring the use of the defined route; (e) construction noise and vibration management measures including: - monitoring of heritage listed items during the use of any vibration intensive equipment; and - safe working distances for the vibration intensive equipment; (f) Soil sedimentation and runoff control measures; (g) management measures to control dust; and (h) waste management measures.	Pre-construction		Not Triggered

Schedule 2 CoA 19C	<p>Prior to the commencement of construction of MOD5, the Applicant must prepare a Construction Environmental Management Plan (CEMP) for the approval of the Planning Secretary, which details relevant construction methodology and key mitigation measures. The CEMP for MOD 5 must include:</p> <ul style="list-style-type: none"> (a) Controls for the potential direct exposure to soil potentially impacted by mercury; (b) Erosion and sediment controls including the management of any stormwater or groundwater that may accumulate in the development footprint; (c) Details of the management strategy for handling, classification and disposal of any contaminated soil; (d) An unexpected finds protocol which is to be enacted where mercury concentrations in the soil excavated during construction of MOD5 exceed the 893 mg/kg mercury threshold; (e) Construction and demolition waste management; (f) Traffic management; and (g) Construction noise and vibration management. 	Pre-construction related to MOD 5		Not Triggered
Schedule 2 CoA 19D	<p>The Applicant must:</p> <ul style="list-style-type: none"> (a) Not commence construction works required under MOD5 until the CEMP is approved by the Planning Secretary; and (b) Carry out the construction of MOD5 in accordance with the CEMP approved by the Planning Secretary. 	Pre-construction related to MOD 5		Not Triggered
Schedule 2 CoA 20	<p>The EMP should address but not be limited to:</p> <ul style="list-style-type: none"> (a) Details of the soil and groundwater investigation to be carried out in the area proposed for earthworks (b) Details of the management strategy for the handling, treatment and disposal of any acid sulphate soils and any contaminated material (c) Soil sediment control measures (d) Surface run-off control (e) Dust management plan (f) Quality of excess water from construction site and monitoring (g) Methods and discharges or use of excess water including criteria for discharge of stormwater to sewer, stormwater or treatment (h) Groundwater protection (i) The manner in which air and noise management and environmental monitoring will be implemented in relation to the new facilities. <p>No site works involving ground disturbance must commence prior to approval of the plan.</p>	Pre-construction		Not Triggered
Schedule 2, CoA 21	<ul style="list-style-type: none"> (a) Excavated material must be screened, tested and disposed of in accordance with the Department of Education, Climate Change and Water's Waste Classification Guidelines 2008. Testing must include, but not be limited to, mercury and hexachlorobenzene. (b) Materials found to be contaminated must be disposed of to an appropriately licensed facility and not reused on site for any purpose. 	Construction		Not Triggered
Schedule 2, CoA 22	<p>The Applicant must ensure that the proposed development, during construction and operation, does not impact on the neighbouring rail embankments. Details of drainage and stormwater management must be discussed with Rail Access Corporation (RAC) and Rail Estate to ensure that there is no impact on the operation of rail.</p>	At all times	BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) IXOM Environmental Management Plan (Document Number: SHE-BOT-MGT-ENV-001. Scope of Application: Botany	Compliant

					CAP, Revision: 3, Issued: 21 st July 2022).			Not Triggered
Schedule 2, CoA 23	The Applicant must submit for the approval of the Secretary, evidence that the environmental management of the proposed facilities has been integrated into the existing site Safety, Health and Environment Procedures.							
Schedule 2, CoA 24	At 3-year intervals, from the date of commencement of operations of the development, or as required by the Secretary, the Applicant must submit an Independent environmental audit of the development in accordance with ISO 14011 – Procedures for Environmental Auditing (or equivalent). The audit must be carried out at the Applicant's expense and be undertaken by a duly qualified independent person or team approved by the Secretary. The Applicant must comply with all reasonable requirements of the Secretary in respect of the implementation of any measures arising from the studies undertaken as a result of Condition 22 and must implement those instructions to the satisfaction of the Secretary within such time as the Secretary may specify.		Post Approval - 3 Yearly		NSW DPE Letter dated 21 September 2022 (ref: DA 35/98-PA-9) NSW DPIE Letter dated 27 September 2019 (re: approval of AECOM to undertake the 2109 IEA). IXOM Chlor-Alkali Facility Independent Environmental Audit 2019 (AECOM, 19 December 2019). IXOM Chlor-Alkali Facility Independent Environmental Audit 2022 (WSP, 22 December 2022).		Compliant	
POLLUTION CONTROL APPROVAL AND LICENSES								
Condition of Consent	Compliance Requirement	Compliance Requirement	Development Phase	Evidence and Comments	Evidence and Comments	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 25	The Applicant must obtain from the EPA all statutory approvals and licences required under the Clean Air, Clean Waters, and Noise Control Acts and must renew and maintain the licences for the life of the development.		At all times		NSW EPA issued Environment Protection Licence (EPL) 20547.			Compliant
WORK COVER REQUIREMENTS								
Condition of Consent	Compliance Requirement	Compliance Requirement	Development Phase	Evidence and Comments	Evidence and Comments	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 26	The Development must comply with the requirements of the Dangerous Goods Act 1975, as administered by WorkCover NSW, and if necessary be licensed under this Act.		At all times		SafeWork NSW Licence to operate a major hazard facility, Licence Number: 20-15-61, date granted 22 December 2020, expiry date 23 December 2023, facility number 20-15. MHF Safety case submitted to SafeWork NSW, awaiting for feedback on licence renewal. Notification of Hazardous Chemicals on Premises (dated 12 November 2023, NDG201314)			Compliant

Schedule 2, CoA 26A	MOD3 must comply with Australian Standard AS3780 The Storage and Handling of Corrosive Substances.	MOD 3		Not Triggerred
Schedule 2, CoA 27	One month prior to the commencement of operation, the Applicant must inform the Secretary in writing of the dangerous goods requirements for the in-transit storage of Chlorine in bulk road tankers.	Pre-commencement		Not Triggerred
Schedule 2, CoA 27A	The Applicant must dispose of any asbestos contaminated materials in accordance with the requirements of WorkCover NSW.	At all times	IXOM Asbestos Survey (Hibbs & Associates Pty Ltd) Reference No: S1228-R01, July 2022). No disposal of asbestos during the reporting period.	Not Triggerred
NOISE				
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 28	No later than one month prior to the start of construction, the Applicant must develop, to the satisfaction of the EPA, a Construction Noise Management Plan. This must provide details of noise control measures to be undertaken during construction. This plan must be developed in accordance with the requirements of the EPA Noise Control Manual.	Within 1 Month of Construction		Not Triggerred
Schedule 2, CoA 29	All construction activities, likely to generate perceivable noise offsite, must be restricted to the hours 7.00am to 6.00pm, Monday to Friday, and 7.00am to 1.00pm, Saturday, unless otherwise agreed to in writing by the EPA on a case by case basis.	Construction		Not Triggerred
Schedule 2, CoA 30	The technique used for piling during construction must be "auger piling" to ensure that there will be no vibration effects on nearby buildings or surrounding properties.	Construction		Not Triggerred
Schedule 2, CoA 31	During construction the Applicant must ensure that the L10 noise level (measures over a period of not less than 15 minutes when the construction site is in operation) does not exceed the background level by more than 5 dB(A) at residential boundaries and beyond, under prevailing meteorological conditions weather conditions.	Construction		Not Triggerred
Schedule 2, CoA 32	The Applicant shall ensure that the noise emission from the operation of all plant and equipment associated with the proposed development shall conform to the Orica Pollution Control Licence No 2148 noise conditions. In addition: (a) The operation of all new equipment in the Chlor-Alkali plant when assessed on any residential boundary shall not give rise to a sound pressure level that exceeds (LA10) 40dB(A) night time and (LA10) 50dB(A) day time. (b) The operation of all reused equipment in the Chlor-Alkali plant when assessed on any residential boundary shall not give rise to a sound pressure level that exceeds (LA90) 47dB(A) night time and (LA10) 60dB(A) day time. New and reused equipment is as defined in the EIS "Replacement Chlor-Alkali Plant" (Dames & Moore dated 25 June 1998).	At all times	Monthly Noise Monitoring Reports (WolfPeak Pty Ltd) Botany Industrial Park (BIP) and Port Botany (December 2022 to November 2023).	Compliant

<p>Schedule 2, CoA 33</p>	<p>The Applicant shall ensure that the noise emission from the operation of all plant and equipment shall not give rise to a sound pressure level that exceeds LA10 65dB(A) (when assessed on any neighbouring commercial/industrial premises). <i>Note for assessment purposes, LA10 sound levels shall be assessed over a period of 10-15 minutes. Where the sound contains prominent tonal or frequency varying characteristics or is impulsive, a correction factor of 5dB(A) shall be added to the measures level.</i> <i>The noise emission limits apply for prevailing meteorological conditions, except under conditions of temperature inversions. Noise impacts that may be enhanced by temperature inversions must be addressed by:</i> <i>(a) documenting noise complaints received to identify any higher level of impacts or patterns of temperature inversions;</i> <i>(b) where levels of noise complaints indicate a higher level of impact then actions to quantify any ameliorate any enhanced impacts under temperature inversions conditions should be detailed in the noise management protocol.</i> Where practicable, during the commissioning of the Chlor-alkali plant, the Applicant must ensure that test runs are conducted during daytime.</p>	<p>At all times</p>	<p>Monthly Noise Monitoring Reports (WolfPeak Pty Ltd) Botany Industrial Park (BIP) and Port Botany (December 2022 to November 2023).</p>	<p>Compliant</p>
<p>Schedule 2, CoA 34</p>	<p>No later than one month prior to the start of operation, the Applicant must prepare to the satisfaction of the EPA, a Noise Management Plan to address operating the proposed development in accordance with the Site Noise Reduction Program.</p>	<p>Commissioning</p> <p>1 Month Prior to Start of Operation</p>		<p>Not Triggered</p>
<p>Schedule 2, CoA 35</p>				<p>Not Triggered</p>

AMENITY		Compliance Requirement		Development Phase		Evidence and Comments		Compliance Status	
Schedule 2, CoA 36	All machinery must be installed and/or housed in such a manner as to prevent the emission of noise and transmission of vibration outside the premises.			At all times	Site observations by Auditor on 10 October 2022 BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) Monthly Noise Monitoring Reports (WolfPeak Pty Ltd) Botany Industrial Park (BIP) and Port Botany (December 2022 to November 2023).			Compliant	
Schedule 2, CoA 37	The premises and operations must be conducted in such a manner as not to interfere with, or materially affect, the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust, wastewater, waste products, grit, oil or otherwise.			At all times	BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) IXOM Annual Returns (AR) submitted to EPA for EPL 20547: AR (19 Feb 2022 – 19 Feb 2023) IXOM Environmental Management Plan (Document Number: SHE-BOT-MGT-ENV-001. Scope of Application: Botany CAP, Revision: 2. Issued: 23 rd September 2021).			Compliant	
Schedule 2, CoA 38	The occupier of the premises must not cause, permit, or allow the emission of any odorous air impurity from the development such that it can be detected outside the property boundaries by its odour.			At all times	Site observations by IEA Auditor on 10 October 2022 BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) IXOM Annual Returns (AR) submitted to EPA for EPL 20547: AR (19 Feb 2022 – 19 Feb 2023) IXOM Environmental Management Plan (Document Number: SHE-BOT-MGT-ENV-001. Scope of Application: Botany CAP, Revision: 3. Issued: 21 st July 2022).			Compliant	
Schedule 2, CoA 39	All raw materials, manufactured goods and machinery must be stored wholly within the development and not in adjacent forecourts, yards, access ways, car parking areas, or on Council's footpath.			At all times	Site observations by IEA Auditor on 10 October 2022 BIP Complaints Register (Excel File – BIP 2016-2023 Complaints)			Compliant	
Schedule 2, CoA 40	All work shall be carried out inside the development and not in adjacent forecourts, yards, access ways, car parking areas, or on Council's footpath.			At all times	Site observations by IEA Auditor on 10 October 2022 BIP Complaints Register (Excel File – BIP 2016-2023 Complaints)			Compliant	

Schedule 2, CoA 41	The Applicant must screen or direct all on-site lighting away from residences and roadways to the satisfaction of Council.	At all times	BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) IXOM Annual Returns (AR) submitted to EPA for EPL 20547: AR (19 Feb 2022 – 19 Feb 2023)	Compliant
Schedule 2, CoA 42	Prior to construction, a colour scheme for the Chlor-alkali plant must be prepared by the Applicant consistent with the aims and objectives of the Botany Bay City Council's 'Environmental Improvement Program - Banksmeadow Industrial Area' submitted to and approved by the Secretary.	Pre-construction		Not Triggered
Schedule 2, CoA 43	Any temporary structure on the southern or western side of the site must be removed within 3 months of being completed. Further, the temporary parking area for the contractors must cease being used within one month of the plant commissioning being completed.	3 Months After Construction Completion		Not Triggered
LANDSCAPING				
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 44	Prior to seeking a construction certificate, the Applicant must prepare a detailed landscape plan for the development to be implemented within 6 months of the commissioning of the proposed development to the satisfaction of Botany Bay City Council.	Prior to seeking construction certificate		Not Triggered
UTILITY SERVICES				
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 45	Any necessary alterations to public installations must be made at the Applicant's own expense and must meet the requirements of both the Council and the relevant authority/s.	Any Modification Affecting Conditions of Consent		Not Triggered
HERITAGE				
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments	Compliance Status
Schedule 2, CoA 46	Any equipment or structure decommissioned or demolished as a result of this development consent should be fully documented. A report detailing the chemical and manufacturing processes should be maintained together with any oral history, flow diagrams of the manufacturing process, photographic records and documentation including scale drawings in accordance with the Guidelines from the Heritage Office. Three copies of this report to be forwarded to Council.	Decommissioning	Site observations by IEA Auditor on 10 October 2022	Not Triggered
Schedule 2, CoA 46A	The Applicant must provide a supplementary report including a photographic record of any equipment or structure decommissioned or demolished as a result of MOD 4. Copies of the supplementary report must be provided to the Secretary and the City of Botany Bay Council prior to demolition.	Decommissioning as a result of MOD 4	Site observations by IEA Auditor on 10 October 2022	Not Triggered

ANNUAL REPORT			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2, CoA 47	The Applicant must submit an annual report to Secretary in respect of the implementation and effectiveness of the conditions contained in this consent and compliance with the EIS and shall bring to the notice of the Secretary those matters which the Applicant considers may require further investigation. The first report must be submitted one year from the date of this consent, and subsequent reports must be submitted on the anniversary of this date or such period as the Secretary may agree. This report must include a record of commercial traffic movements into and out of the site annually from the date of commencement of operation. The report must also include details of the hours spent by loaded chlorine road tankers on site.	Post Approval - Yearly	IXOM 2022 Annual Report for DPIE (January 2023, Rev 1.0). DPIE email dated 3 April 2020 re: re: 2019 Annual Environmental Management Report- IXOM Chlor-Alkali Plant to IXOM. Screenshot of IXOM's DPE Portal (Post Approval) for submission of 2022 Annual Report.
Schedule 2, CoA 48	The applicant must prepare an annual report to be distributed to the public detailing environmental performance, details of annual vehicle movements including dangerous goods, and compliance with conditions of consent. This report must include details of the types and number of community complaints received during the year.	Post Approval - Yearly	IXOM 2022 Annual Report for DPIE (January 2023, Rev 1.0). Botany.ixom.com
YEAR 2000 CONFORMITY			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2, CoA 49	One month prior to the commencement of commissioning, the Applicant must provide to the Secretary a report confirming that all automated systems, including embedded systems, used for plant operation, pollution control, fire safety and monitoring have been tested in accordance with the most recent edition of BS/DISC PD2000-1 to confirmed continuous time and date functionality of those systems.	1 Month Prior to Start of Operation	IXOM Chlor-Alkali Facility Independent Environmental Audit 2022
GENERAL			
Condition of Consent	Compliance Requirement	Development Phase	Evidence and Comments
Schedule 2, CoA 50	Adequate provision must be made within the development for the storage, collection and disposal of waste and recyclable materials to the satisfaction of the Council of Botany Bay. A Waste Management Plan must be submitted to Council at the commencement of construction detailing the type and quantity of waste to be generated by the development; materials to be reused or recycled; facilities/procedures for the storage, collections and disposal of waste and on-going management of waste	Commencement of Construction	
Schedule 2, CoA 51	Prior to the commencement of construction, the Applicant must implement an advertised 24-hour telephone service to handle complaints from members of the public during the construction period.	Pre-construction	
Schedule 2, CoA 52	During the construction period the Applicant must maintain a Complaints Register which shall be used to record details of all complaints received and actions taken by the Applicant in response to such complaints. The Register must be available for inspection to all relevant approval/consent authorities.	Construction	

Schedule 2, CoA 53	The Applicant must ensure the facility is built to withstand rail related vibration from the neighbouring rail yards.	At all times	IXOM Chlor-Alkali Facility Independent Environmental Audit 2019 (AECOM, 19 December 2019)	Not Triggerred
Schedule 2, CoA 54	The Applicant must also ensure that no adverse impacts from construction and operation of the development on the nearby rail corridor and railway land.	At all times	BIP Complaints Register (Excel File – BIP 2016-2023 Complaints) Environmental Incidents Register (excel spreadsheet)	Compliant
Schedule 2, CoA 55	Any dispute arising between any of the parties in respect to these conditions must be referred to the Secretary for resolution.	At all times		Not Triggerred
Schedule 2, CoA 56	Before commencing construction, the Applicant must install and maintain vibration monitoring equipment in areas of vibration sensitive equipment on any neighbouring plants. This equipment must be maintained and monitored over the life of the construction and commissioning of the proposed development.	Pre-construction		Not Triggerred
Schedule 2, CoA 57	This approval and consent does not relieve the Applicant of the obligation to obtain any other approval under the Local Government Act, 1993 as amended, the Ordinance made thereunder or any other Act.	At all times	IXOM Chlor-Alkali Facility Independent Environmental Audit 2019 (AECOM, 19 December 2019). Bayside Council Occupation Certificate dated 31 March 2020 (Certificate Number: CC- 2019/72) for Chemical Repack Facility.	Compliant

9.4 Appendix D – EIS SUMMARY OF MITIGATION MEASURES DURING OPERATION

Section	Title	Mitigation Measures	Comments	Assessment
9.3.1	Planning and Land Use	The proposed development is compatible with the surrounding land uses and is consistent with the relevant environmental planning instrument applicable to the site, i.e. Botany Local Environmental Plan 1995. Therefore, no mitigation measures are proposed.		Not Triggered
9.3.2	Air Quality - Chlorine	The membrane system is completely sealed, fugitive chlorine emissions from the membrane cell process will be less than those from the mercury cell process;		Control in place
9.3.2	Air Quality - Chlorine	Waste chlorine will be directed through a replacement backing tower / emergency scrubber to remove residual trace chlorine prior to discharge to atmosphere; and		Control in place
9.3.2	Air Quality - Chlorine	Operational alarms will continue to provide early warning of process upsets which may lead to accidental releases of chlorine, and enable control personnel to take corrective action.	Trip and alarms are in place. Critical controls were identified through a risk assessment process. These critical controls identified are tested on a regular basis as per defined maintenance plan.	Control in place
9.3.2	Air Quality - CO2 and Nox	Energy consumption and associated carbon dioxide emissions per tonne of chlorine produced are expected to decrease with the proposed plant, due to the increased energy efficiency of the membrane technology; and		Control in place
9.3.2	Air Quality - CO2 and Nox	For the existing plant, steam is generated by the existing Orica coal-fired and gas fired boilers and electricity is typically produced by coal-fired power stations in the Hunter Valley. For the new facility, it is expected that the Botany Cogeneration Plant will generate steam and electricity. The provision of steam and electricity from the cogeneration plant for the Chlor-alkali plant will reduce the expected impact on air quality of the proposed plant, as the Orica boilers will no longer be required, and emissions of particulates and NOx will decrease. Greenhouse gas emissions associated with the provision of electricity and steam to the Chlor-alkali plant will decrease because electricity and steam will be sourced from the cogeneration plant. The decrease is a result of natural gas being the primary fuel used to generate the steam and electricity and the higher thermal efficiency of the cogeneration plant compared to coal-fired power stations.		Control in place


9.3.3	Noise	<p>All new items of equipment are required to meet the Occupational Noise Limits specified for the site. Specific noise mitigation measures will be developed as part of the low noise fans for motor drive units, lagging of steam ejector lines, and mufflers on diaphragm pumps. The mitigation measures implemented will meet the residential boundary noise criteria given in Section 7.3 and the contractor will be required to provide evidence to the EPA and Orca that noise emission requirements have been satisfied.</p> <p>Areas where potentially contaminated stormwater may be generated will be separated from clean areas by bunding, grading and kerbing. In general, stormwater from roofs, gutters and adjacent roads will be assumed to be free of chemical contamination. All other areas, particularly processing and salt handling areas, will be considered to be potentially contaminated;</p> <p>The drainage system will separate the majority of process areas from clean areas, and direct any process spills to the plant effluent system. This system will also separate most of the potentially contaminated firewater runoff, if firewater is ever required in this area;</p> <p>Potentially contaminated stormwater will be directed to a first flush pit. The volume of the first flush pit will be approximately 20 m³, and will be sized to accept the 1 in 5 year storm over the unroofed plant area. The first flush of stormwater will be collected in the pit and tested. Based on the results of the tests, the water will be treated and / or diverted to effluent, or disposed offsite as liquid waste. This system will also retain potentially contaminated firewater for appropriate disposal;</p> <p>Handling, storage and transporting all Dangerous Goods in accordance to prescribed regulations, to minimise the potential for spills or leaks of chemicals;</p> <p>Bunding of existing and proposed chemical storage areas. The capacity of all bunds, existing and proposed, will comply with relevant Dangerous Goods regulations and EPA requirements, and will be adequate to contain spills and leaks. Bunds around storage tanks would retain significant amounts of firewater, if firewater was either used in these areas or accumulated there from overspray;</p> <p>Any spilled or leaked material will either be collected and appropriately disposed of offsite or directed to the effluent system;</p>	<p>Monthly Noise Reading is conducted by Whamcorp Pty Ltd. There is no noise exceedance during the reporting period. Management of Change procedure is in place where it prompts the project owner to assess the noise impact of the change.</p>	Control in place
9.3.4	Surface Water	<p>Areas where potentially contaminated stormwater may be generated will be separated from clean areas by bunding, grading and kerbing. In general, stormwater from roofs, gutters and adjacent roads will be assumed to be free of chemical contamination. All other areas, particularly processing and salt handling areas, will be considered to be potentially contaminated;</p> <p>The drainage system will separate the majority of process areas from clean areas, and direct any process spills to the plant effluent system. This system will also separate most of the potentially contaminated firewater runoff, if firewater is ever required in this area;</p>		Control in place
9.3.4	Surface Water	<p>Potentially contaminated stormwater will be directed to a first flush pit. The volume of the first flush pit will be approximately 20 m³, and will be sized to accept the 1 in 5 year storm over the unroofed plant area. The first flush of stormwater will be collected in the pit and tested. Based on the results of the tests, the water will be treated and / or diverted to effluent, or disposed offsite as liquid waste. This system will also retain potentially contaminated firewater for appropriate disposal;</p>		Control in place
9.3.4	Surface Water	<p>Handling, storage and transporting all Dangerous Goods in accordance to prescribed regulations, to minimise the potential for spills or leaks of chemicals;</p>	<p>Procedure for notification of Hazardous Chemicals is in place. The latest notification to Safework was completed in November 2023.</p>	Control in place
9.3.4	Surface Water	<p>Bunding of existing and proposed chemical storage areas. The capacity of all bunds, existing and proposed, will comply with relevant Dangerous Goods regulations and EPA requirements, and will be adequate to contain spills and leaks. Bunds around storage tanks would retain significant amounts of firewater, if firewater was either used in these areas or accumulated there from overspray;</p>	<p>Planned Maintenance program in place to inspect bunding and structures.</p>	Control in place
9.3.4	Surface Water	<p>Any spilled or leaked material will either be collected and appropriately disposed of offsite or directed to the effluent system;</p>	<p>Procedure in place. Personnel training in place through Induction and Environmental Awareness Training.</p>	Control in place

9.3.4	Surface Water	All loading and unloading areas have a system for collecting stormwater; and	Control in place
9.3.4	Surface Water	the quantity of stormwater runoff discharged to Springsvale Drain and Botany Bay will not change, as the area of paved and roofed facilities will not change with this development.	Control in place
9.3.5	Process Water Usage	Recovery and re-use of caustic evaporator condensate; Recovery and re-use of steam condensate; and Recovery of cooling tower blowdown water and caustic evaporator condensate, which will be directed to the site cooling water return system.	Control in place
9.3.6	Wastewater	the proposed design will embrace the concept of "cleaner production" and ensure that where possible liquid effluent, including aqueous condensate and contaminated stormwater, is recycled to the process. The new process uses more modern equipment and technology to ensure that water is recycled as much as practicable; and cooling tower blowdown and brine purge may no longer be sources of wastewater.	Control in place
9.3.7	Wastes	Waste management will be conducted in accordance with Orica procedures relating to waste management and cleaner production; The amount of solid waste disposed to landfill is minimised by recycling empty containers and drums, and (where possible), paper, cardboard and scrap metal; and the following non-aqueous liquid wastes are collected and recycled by contractors: – waste oils; and – spent sulphuric acid.	Control in place Waste Management procedure is in place - MCW-BOT-WKI-SHE-0544 Waste Management; MCW-BOT-WKI-SUL-0006 Guidelines for Handling a Chlorinated Sulphuric Acid Spill; MCW-BOT-PRO-SHE-0111 Storage and Disposal of Flammable and Combustible Chemicals
9.3.8	Soil and Groundwater	Proposed equipment will be installed such that the potential for soil and groundwater contamination due to activities conducted at the proposed plant will be minimised (e.g. all equipment will be placed on existing or proposed concrete slabs).	Control in place
9.3.9	Traffic and Transport	Transportation traffic generated by the upgraded plant will use appropriate arterial and sub arterial roads. Traffic routes and peak flow times will be as for the existing plant.	Control in place
9.3.10	Visual	All the components of the proposed plant will be located within the existing Chlorine & Derivatives Plant area which is within a large industrial zone. One of the project components, the caustic evaporator, will be higher than the existing structures. All proposed structures will be consistent with the existing facilities.	Control in place

9.3.10	Visual	<p>Vapour plumes may develop from the cooling tower and be visible from the elevated areas around the Botany site, under cold, very humid conditions. The presence or absence of these plumes will not change with the proposed development.</p>	Not Triggerred
9.3.11	Flora and Fauna	<p>All components of the proposed upgrade are to be located on existing paved concrete within a large industrial zone where no flora and fauna of significance, including threatened species, occur. Therefore, no flora and fauna will be directly affected by the proposal. The existing native landscape located along the boundary of the Orica plant will not be affected by the proposal.</p>	Not Triggerred
9.3.11	Flora and Fauna	<p>The site has stormwater interceptor pits and a stormwater separation system that prevents contaminated water from reaching Springvale Drain and Botany Bay. Therefore no impacts on the aquatic communities of Botany Bay will occur during operation of the proposed plant.</p>	Not Triggerred
9.3.12	Socio-Economic	<p>Staff of the proposed replacement Chlor-alkali plant will decrease from 98 employees to approximately 40 employees. Those employees not required for the operation of proposed plant will be replaced in other plants within the Orica Botany site if possible. It is expected, however, that many employees will take voluntary redundancy. Training will be given on job application and resume preparation techniques. While the proposed development may slightly negatively affect Sydney employment in the short-term, the transfer of the chlorine liquefaction plant to Orica's Melbourne plant will partly offset this decrease in the overall national employment levels. Social benefits include an increase in training of existing personnel. Plant employees will be trained in operation of the modern membrane cell technology so as to meet the needs of their new responsibilities.</p>	Control in place

9.5 Appendix D – Declaration

Compliance Report Declaration form

Table 12: Declaration	
Name of operation/ project	Ixom Botany ChlorAlkali Plant
Development consent / project approval #	DA35/98 (ref R98/00010)
Description of consent/ project	Replacement of Chlor-Alkali plant at Botany
Development consent / project address	16-20 Beauchamp Road, Matraville NSW 2036
Name of Operator	Ixom Operations Pty Ltd
Compliance Report	Annual Report 2023
Annual Review End Date	30 November 2023
<p>I declare that I have reviewed relevant evidence and prepared the contents of the attached Compliance Report and to the best of my knowledge:</p> <ul style="list-style-type: none"> • the Compliance Report has been prepared in accordance with all relevant conditions of consent; • the Compliance Report has been prepared in accordance with the Compliance Reporting Post Approval Requirements; • the findings of the Compliance Report are reported truthfully, accurately and completely; • due diligence and professional judgement have been exercised in preparing the Compliance Report; and • the Compliance Report is an accurate summary of the compliance status of the development. <p><i>Note.</i></p> <p>a) Under section 10.6 of the Environmental Planning and Assessment Act 1979 a person must not include false or misleading information (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and</p> <p>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years' imprisonment or 200 penalty units, or both).</p>	
Name of Authorising reporting officer	Ben Smith
Title of Authorised Reporting Officer	Head of Manufacturing - Botany
Signature of Authorised Reporting Officer	
Company and Address	Ixom Operations Pty Ltd 1 Nicholson Street, East Melbourne, VIC 3002

