

# Incitec Pivot - Water 2018

## W0. Introduction

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### W0.1

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#### **(W0.1) Give a general description of and introduction to your organization.**

Incitec Pivot Limited (IPL) is a global diversified industrial chemicals company that supplies explosives, industrial chemicals, fertilisers and related services to the mining, infrastructure & construction, chemicals and agriculture industries. IPL has extensive operations throughout Australia, the United States, Canada, Mexico, Turkey and Indonesia, including over 30 manufacturing plants, scores of distribution centres and well-established channels to market. The Company employs over 4,500 staff worldwide, including almost 2,000 staff in Australia and over 2,200 staff in North America. IPL manufactures a range of fertiliser inputs and products including ammonium phosphates, ammonia, urea, sulphuric acid and superphosphates at five manufacturing sites across eastern Australia and is the only manufacturer of ammonium phosphates and urea in Australia.

Through the Incitec Pivot Fertilisers brand (IPF) IPL is Australia's largest supplier of fertilisers, dispatching approximately two million tonnes each year for use in the grain, cotton, pasture, dairy, sugar and horticulture industries. It operates through a comprehensive network of distributors who supply the product to Australian farmers. IPL has a long-term commitment to investment in soil nutrition research and its Nutrient Advantage laboratory is industry accredited. As a leading provider of nutrition advice to farmers and customers, IPL promotes the sustainable use and safe handling of its fertiliser products to customers and farmers.

Through the Dyno Nobel brand, IPL is the second largest supplier of explosives in Australia and is a market leader in North America. Dyno Nobel branded products include a complete range of commercial explosives including ammonium nitrate, bulk explosives, packaged emulsions and dynamite as well as a range of initiating systems. Services provided include expert technical consulting to customers such as mining companies and their suppliers, quarries and companies supporting the construction industry. In addition, IPL manufactures various industrial chemical products used in water treatment, process manufacturing and other industrial applications.

IPL recognises that building a sustainable future requires the sustainable management of the production of infrastructure, food, clothing, shelter and energy that people need every day. As a manufacturer and supplier of fertilisers, which are used to grow more food and fibre on existing land, and explosives products, which are used for mining, construction and quarrying, we recognise that our role in

value creation relates directly to several UN Sustainability Goals, including ‘Responsible Consumption and Production’, ‘Decent Work and Growth’ and the production of food for a growing population (‘Zero Hunger’).

We also recognise the need to balance our economic performance with our environmental and social responsibilities. Those responsibilities include being a good corporate citizen and operating ethically. They include ensuring good governance in our day-to-day business activities and behaving with honesty and integrity in our interactions with communities, employees, customers, and the environment.

## W-CH0.1a

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### (W-CH0.1a) Which activities in the chemical sector does your organization engage in?

Bulk inorganic chemicals

## W0.2

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### (W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	October 1 2016	September 30 2017

## W0.3

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### (W0.3) Select the countries/regions for which you will be supplying data.

Australia

Canada

Mexico

Turkey

United States of America

## W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

AUD

## W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

## W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

## W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Small distribution and emulsion manufacturing sites across North America	Data is not presently available for water use at these sites, and it is expected that withdrawals are not material (each emulsion manufacturing site in Australia currently uses less than 0.5% of IPLs total water withdrawal).
Offices and administration buildings that are not situated at manufacturing sites across North America	Data is not presently available for water use at these sites, and amounts are not expected to be material.
A small site in Chile	Amounts are not material.

## W1. Current state

### W1.1

#### (W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Not very important	IPL's manufacturing operations require high quality water for cooling systems and boilers (low calcium and silica), so are located in areas where access to water is assured. Cooling water also requires very low sediment levels, so even fresh surface (river) water is typically treated onsite prior to use. IPL typically has access to regulated municipal water supply or abundant fresh surface water or groundwater as regulated by the local EPA. Where this is not the case, long-term supply agreements are put in place.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	IPL manufacturing sites are typically located in areas with access to regulated municipal water supply or abundant fresh surface water or ground water as regulated by the local EPA. Where this is not the case, long-term supply agreements are put in place.

### W1.2

#### (W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	76-99	Total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, on-site water recycling treatment plant meters and rainwater tank meters for all sites under operational control except for those listed at question W0.6a.
Water withdrawals – volumes from water stressed areas	76-99	IPL has no sites identified by the WBCSD Tool as being in 'Water Stressed Areas (<1,700 m <sup>3</sup> /person/yr)'. However, the WRI Aqueduct tab within the tool identified one ammonia manufacturing site in the United States where baseline water stress in the water catchment area is high. It has also identified one ammonia manufacturing site and four smaller manufacturing sites in Australia as being located in water catchment areas which may experience water stress in the future (2025). However, 3 of these 5 sites do not manufacture ammonia, do not require large volumes of water and are supplied by local municipal water

	% of sites/facilities/operations	Please explain
		authorities with long term water management plans. The ammonia manufacturing site, at Phosphate Hill in Queensland, has access to a local groundwater aquifer which is recharged annually in the wet season. Total water withdrawal volumes are collected via water invoices, and water meters for all sites under operational control except for those listed at question W0.6a.
Water withdrawals – volumes by source	76-99	Total water withdrawal volumes are collected via municipal water invoices, river water meters, groundwater meters, on-site storm water treatment plant meters, on-site water recycling treatment plant meters and rainwater tank meters for all sites under operational control except for those listed at question W0.6a
Produced water associated with your metals & mining sector activities - total volumes	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes	<Not Applicable>	<Not Applicable>
Water withdrawals quality	51-75	Due to the high quality of water required for non-contact cooling purposes, our St. Helens, Cheyenne, and Waggaman ammonia manufacturing sites all test the surface and groundwater withdrawn on a routine basis (not a continuous basis). These sites represent 71% of our total global water withdrawal and 30% of our nitrogen manufacturing sites.
Water discharges – total volumes	100%	Water discharge volumes are collected via discharge meters at 100% of IPL sites which discharge. Most Australian sites are non-discharge sites.
Water discharges – volumes by destination	100%	Water discharge volumes are collected via discharge meters to rivers (surface waters) and groundwater at 100% of IPL sites which discharge. Most Australian sites are non-discharge sites.
Water discharges – volumes by treatment method	100%	Water discharge volumes are collected via discharge meters at each site, along with the treatment method used before that water volume is discharged, at 100% of sites which discharge. Most Australian sites are non-discharge sites.
Water discharge quality – by standard effluent parameters	100%	Water discharge volumes are collected from each site, along with the quality by standard effluent parameters as demanded by the licence requirements at each site, from 100% of sites which discharge.
Water discharge quality – temperature	76-99	All ammonia manufacturing sites that discharge clean, not contact cooling water to surface waters (rivers) monitor the temperature of the discharge This makes up 95% of our total

	% of sites/facilities/operations	Please explain
		discharge. The ammonia manufacturing site which discharges to groundwater (deep well injection) also tests the temperature of the water quarterly: this makes up 1% of our total discharge. These sites together make up 76% percent of our manufacturing sites that discharge and 96% of our total discharge.
Water consumption – total volume	76-99	Water consumption is calculated by subtracting the total volume of water returned to its original source as 'clean water' from the total water withdrawn from all sites under operational control except for those listed at question W0.6a.
Water recycled/reused	1-25	Water recycled/reused is only monitored at sites where on-site water treatment plants are used during the reuse/recycling, allowing the meter to be read. All Australian IPL ammonia manufacturing sites recycle cooling water multiple times, and high nutrient waters are often reused in product making. This recycling of water is not monitored.
The provision of fully-functioning, safely managed WASH services to all workers	100%	All of our sites provide access to clean facilities and drinking water for employees

## W1.2b

**(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?**

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	47629	Higher	This 9 percent increase is mostly due to the completion of IPL's new Waggaman, Louisiana ammonia plant at the start of the reporting period.
Total discharges	32446	Lower	98 percent of our discharge was clean water to surface waters. This discharge includes rainwater and snowmelt at some sites in North America where runoff is collected and treated along with other water before discharge. These amounts can therefore not be separated from process or cooling water discharged. The 9 percent decrease is due to lower rain/snowfall in 2017.
Total consumption	15670	Much higher	The 'total consumption' reported here is total withdrawal minus clean water discharge. The much higher reported 'total consumption' is due to the 9 percent increase in total withdrawal (due to the new

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
			Waggaman site) combined with the 9percent lower discharge (due to the inclusion of lower rain and snowmelt this year, which cannot be separated from process water at some sites in North America).

## W1.2d

### (W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	0	About the same	WBCSD Global Water Tool	The WBCSD water tool identifies no sites as being in 'Water Stressed Areas (<1,700 m3/person/yr)' on the DJSI tab.

## W1.2h

### (W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	35028	Higher	A 9 percent increase in surface water due to the new Waggaman, Louisiana ammonia plant.
Brackish surface water/seawater	Relevant	1.93	Higher	Increase in desalinated water used at Donoro, Mexico.
Groundwater – renewable	Relevant	8247	Please select	9 percent increase due to production
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	
Third party sources	Relevant	4352	Higher	A 7 percent increase due to increased production.

## W1.2i

### (W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	31964	Lower	A 10 percent decrease due to less rainfall and snow melt at some sites which capture and treat run off through the same treatment plants, not allowing this source to be separated from process and cooling water discharged.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	
Groundwater	Relevant	378	About the same	An 11 percent increase due to increased production.
Third-party destinations	Relevant	103.8	Lower	A 33 percent decrease in discharge to sewers.

## W1.2j

### (W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	2-10	About the same	There have been no major changes to recycling of water.



## W-CH1.3

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**(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?**

Yes

### W-CH1.3a

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**(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.**

**Product type**

Bulk inorganic chemicals

**Product name**

Product manufactured for sale

**Water intensity value**

12.86

**Numerator: water aspect**

Total water withdrawals

**Denominator: unit of production**

Other, please specify (Metric tonne)

**Comparison with previous reporting year**

Lower

**Please explain**

Intensity reported is total water withdrawal per metric tonne of product manufactured for sale. Although a large proportion of this water is cooling water which is returned to the surface waters from which it was taken, net water use is an unreliable indicator of year on year intensity due to the inability of some sites to separate snow melt from other discharge.

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## W1.4

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### (W1.4) Do you engage with your value chain on water-related issues?

No, we do not engage on water with our value chain

### W1.4d

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#### (W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	Important but not an immediate business priority	

## W2. Business impacts

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### W2.1

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**(W2.1) Has your organization experienced any detrimental water-related impacts?**

Yes

#### W2.1a

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**(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.**

**Country/Region**

Australia

**River basin**

Fitzroy

**Type of impact driver**

Physical

**Primary impact driver**

Flooding

**Primary impact**

Supply chain disruption

**Description of impact**

Flooding associated with Cyclone Debbie impacted on logistics, which interrupted transfer of product from one site (Gibson Island) as an input to manufacturing at another site (Moranbah) .

**Primary response**

Geographic diversification of facilities

**Total financial impact**

10000000

**Description of response**

Due to the nature of our major markets (agriculture and mining) the risks associated with the physical impacts of extreme weather events have been integrated into IPL's existing risk management processes and corporate strategy for many years, and geographical and

market diversification (and, where possible, insurances) remaining a key management strategy. Risks are reported in our Annual Report under 'Principal Risks' where they have been identified as such.

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## W2.2

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**(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**

Yes, fines

### W2.2a

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**(W2.2a) Provide the total number and financial value of all water-related fines.**

Row 1

**Total number of fines**

3

**Total value of fines**

548296

**% of total facilities/operations associated**

2

**Number of fines compared to previous reporting year**

Higher

**Comment**

The amount reported consists of two fines of \$7,773.00 (at a fertiliser manufacturing site) for accidental waste water discharges, and a fine of \$460,000 and costs of \$72,750 in connection with an inadvertent release of waste water during remediation works (at an explosives emulsions manufacturing site) in 2015. All of these fines were received during the IPL 2017 financial year (which is the reporting period). Both of the sites referred to are in Australia.

### W2.2b

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**(W2.2b) Provide details for all significant fines, enforcement orders, and/or penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.**

**Type of penalty**

Fine

**Financial impact**

7773

**Country/Region**

Australia

**River basin**

Other, please specify (Barwon River Basin)

**Type of incident**

Spillage, leakage or discharge of potential water pollutant

**Description of penalty, incident, regulatory violation, significance, and resolution**

EPA Victoria (Australia) fined IPL AUD\$7,773 for the discharge of treated wastewater and untreated stormwater into Corio Bay (from its Geelong premises) that did not comply with the conditions of the company's EPA licence. This was the first of two fines relating to incidents which occurred due to overflow of the stormwater containment system after very high rainfall events. The stormwater containment system has since been modified to prevent further incidents.

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**Type of penalty**

Fine

**Financial impact**

7773

**Country/Region**

Australia

**River basin**

Other, please specify (Barwon River Basin)

**Type of incident**

Spillage, leakage or discharge of potential water pollutant

**Description of penalty, incident, regulatory violation, significance, and resolution**

EPA Victoria (Australia) fined IPL AUD\$7,773 for the discharge of treated wastewater and untreated stormwater into Corio Bay (from its Geelong premises) that did not comply with the conditions of the company's EPA licence. This was the second of two fines relating to incidents which occurred due to overflow of the stormwater containment system after very high rainfall events. The stormwater containment system has since been modified to prevent further incidents.

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**Type of penalty**

Fine

**Financial impact**

460000

**Country/Region**

Australia

**River basin**

Other, please specify (Hunter River Basin)

**Type of incident**

Spillage, leakage or discharge of potential water pollutant

**Description of penalty, incident, regulatory violation, significance, and resolution**

On 31 May 2017, the Land and Environment Court of New South Wales ordered a subsidiary of the Company to pay a fine of \$460,000 and costs of \$72,750 to the Environment Protection Authority in connection with an incident at the Group's Warkworth manufacturing facility in Australia involving an inadvertent release of waste water during remediation works on site in 2015.

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**Type of penalty**

Other penalty type, please specify (Costs)

**Financial impact**

72750

**Country/Region**

Australia

**River basin**

Other, please specify (Hunter River Basin)

**Type of incident**

Spillage, leakage or discharge of potential water pollutant

**Description of penalty, incident, regulatory violation, significance, and resolution**

On 31 May 2017, the Land and Environment Court of New South Wales ordered a subsidiary of the Company to pay a fine of \$460,000 and costs of \$72,750 to the Environment Protection Authority in connection with an incident at the Group's Warkworth manufacturing facility in Australia involving an inadvertent release of waste water during remediation works on site in 2015.

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## W3. Procedures

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### W-CH3.1

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#### **(W-CH3.1) How does your organization identify and classify potential water pollutants associated with its activities in the chemical sector that could have a detrimental impact on water ecosystems or human health?**

IPL operates under a Global Health, Safety and Environment Management System which sets out guidelines on the Group's approach to environmental management, including a requirement for sites to undertake Environmental Site Assessments. Potential water pollutants are identified at each location as part of the comprehensive risk management process governed by the IPL HSEC Management System. Once identified, potential water pollutants are classified and managed using the information on Safety Data Sheets (SDS). This information includes ecotoxicity, persistence and degradability and environmental fate (exposure).

We have a governance structure in place that oversees the management of our environmental impacts:

- The Board's Health, Safety, Environment and Community (HSEC) Committee assists the Board in its oversight of health, safety, environment and community matters arising from our activities as they may affect employees, contractors, and the local communities in which we operate.
- The Zero Harm Council, chaired by our Managing Director & CEO and consisting of members of the Executive Team, is accountable for reviewing health, safety and environmental performance.
- The Zero Harm Council is supported by Zero Harm Councils within each business unit, down to site level. These Councils are chaired by the business unit head to provide leadership on health, safety and environment. Business Unit Councils meet monthly and report to the Executive Team. Within each of our business units, operations staff and project teams are responsible for preparing and executing plans to support environmental targets and strategies.
- Site managers are responsible for the operation of their site, including their environmental performance. Environmental managers within the business provide site managers with expertise to support the day-to-day environmental management of sites.

IPL is also subject to environmental regulation under the jurisdiction of the countries in which we operate including Australia, United States of America, Mexico, Canada and Turkey. These environmental laws and regulations generally address the potential aspects and impacts of our activities in relation to, among other things, air and noise quality, soil, water, biodiversity and wildlife. In certain jurisdictions, the Group holds licences for some of our operations and activities from the relevant environmental regulator. We measure our compliance with such licences and report statutory non-compliances as required. For example, in relation to water discharge, all USA manufacturing sites have individual permits which specify the contaminants and levels allowed for Drinking Water, NPDES

Discharge to rivers; or Underground Injection. These individual discharge limitations are developed by the agencies using the Code of Federal Regulations (CFR), which contains limits according to business type and amount of production .

Our Australian fertiliser products comply with Fertilizer Australia Codes of Practice, including the National Code of Practice for Fertilizer Description and Labelling. Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, are available for all range products. The SDS include advice on the safe use, storage and handling of the product, and its disposal. Labels are attached to the package, or the Delivery Docket for bulk deliveries. Label information and SDS can also be accessed on the Incitec Pivot Fertilisers website, along with other technical information, including advice on Farm Safety when handling Bulk Bags and storing fertiliser in silos, information on product density and sizing, and the company's Quality Policy, which is included for use in our farming customers' Quality Assurance programs.

We provide support to our explosives customers to assist them in choosing the right product and blast plan to minimise environmental impacts and our Dyno Consult business provide documentation and advice to our customers about:

- Product content, particularly with regard to substances that might produce an environmental or social impact.
- Safe use, storage and handling of the product.
- Disposal of the product as required by applicable law.

This advice is supplied on our websites, on the product label, in the Safety Data Sheet (SDS) or directly to the customer via training sessions. Our Australian labelling complies with the requirements of the SafeWork Australia Code of Practice for Labelling of Workplace Hazardous Chemicals and our Australian SDS comply with the requirements of SafeWork Australia. Our North American labelling meets the requirements of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and our North American SDS comply with the Mine Safety and Health Administration (MSHA) for products destined for the mining industry.



## W-CH3.1a

**(W-CH3.1a) Describe how your organization minimizes adverse impacts of potential water pollutants on water ecosystems or human health. Report up to ten potential pollutants associated with your activities in the chemical sector.**

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
Ammonium nitrate	Direct operations Distribution network Product use	<p>Ecotoxicity: Ammonium nitrate is of low toxicity to aquatic life. Spills may cause algal blooms in static waters. Persistence and degradability: When released into the soil, ammonium nitrate is not expected to evaporate significantly, but is expected to leach into groundwater. In damp soil the ammonium ion, NH<sub>4</sub><sup>+</sup>, is adsorbed by the soil. When released into water, ammonium nitrate is expected to readily biodegrade; the nitrate ion, NO<sub>3</sub><sup>-</sup>, is mobile in water. The nitrate ion is the predominant form of plant nutrition. It follows the natural nitrification/denitrification cycle to give nitrogen.</p> <p>Environmental fate (exposure): Low toxicity to aquatic life. TLm 96 between 10 – 100 ppm. No effects on growth or feeding activities were observed in largemouth bass and channel catfish exposed to concentrations of 400 mg NO<sub>3</sub><sup>-</sup>/L. Acute Toxicity to Fish: 48 hr LC50 (Cyprinus carpio): 1.15 - 1.72 mg un-ionised NH<sub>3</sub>/L; 95 – 102 mg total NH<sub>3</sub>/L; 96 hr LC50 (Chinook Salmon, rainbow trout, bluegill): 420 -1,360 mg NO<sub>3</sub><sup>-</sup>/L; TLm (Tadpoles): 910 mg NH<sub>3</sub>/L. Chronic Toxicity to Fish 7 day LC50 (Fingerling rainbow trout): 1,065 mg/L. Acute Toxicity to Aquatic Invertebrates EC50 (Daphnia magna): 555 mg/L; 124.9 mg total NH<sub>3</sub>/L. Chronic Toxicity to Invertebrates Up to 7 days NOEC (Bullia digitalis): 300 mg/L. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA GHS classifications: Serious Eye Damage / Eye Irritation: Category 2A</p>	<p>Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use</p>	<p>Human Health and Safety: • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • • Supply of specialist knowledge in product use via our technical support teams and our Dyno Consult business. At many customer sites IPL employees handle the product as specialist contractors during use. Environmental Health: Although of low toxicity to aquatic life, ammonium nitrate can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of nitrate ions, which are the predominant form of plant nutrition. Measures to prevent spillage, leaching and leakages include, but are not limited to: • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • On site spill kits • Procedures for transportation • • Supply of specialist knowledge in product use via our technical support teams and our Dyno Consult business. At many customer sites IPL employees</p>

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
				handle the product as specialist contractors during use.
Ammonia based granulated fertilisers (ammonium phosphates)	Direct operations Distribution network Product use	Diammonium phosphate and monoammonium phosphate fertilisers contain nitrogen and phosphorus, both of which can stimulate weed and algal growth if lost to static surface waterways. Algae affect water quality and taste. Depending on the concentration and species, ammonium may be toxic to fish. In the soil, ammonium is converted to nitrate. Nitrate is susceptible to leaching and may contaminate groundwater. High nitrate concentrations (above 10mg/L) may render water unsuitable for human and livestock consumption. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. No signal word, pictograms, hazard or precautionary statements have been allocated.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, ammonia based fertilisers, the nutrients (nitrates and phosphates) in ammonia based fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Single super phosphate (SSP) fertilisers (granulated)	Direct operations Distribution network Product use	Ecotoxicity: 48 hour LC50 (bluegill): 10 mg/L Persistence/Degradability: Not expected to persist in the environment. Phosphates are not toxic to people or animals unless they are present in very high levels. Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still	Please select	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		waterways due to provision of phosphates, which are a form of plant nutrition. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. No signal word, pictograms, hazard or precautionary statements have been allocated.		Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of practice for responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Big N (liquid ammonia fertiliser)	Direct operations Distribution network Product use	Human Health: Material is irritant to the mucous membranes of the respiratory tract (airways). Exposure to concentrations above the Exposure Standard of 25 ppm may cause irritation to the eyes, nose and throat. Higher concentrations may cause breathing difficulty, chest pain, bronchospasm, pink frothy sputum and pulmonary oedema. This may further predispose the patient to the development of acute bronchitis and pneumonia. Overexposure may result in death. Ecotoxicity: Anhydrous ammonia is very toxic to aquatic organisms. In low concentrations in water and soil, ammonia acts as a fertiliser to promote plant growth. Free ammonia concentrations of 2.5 mg per litre at pH 7.4 to 8.5 are considered harmful to marine life. In water ammonia (NH3) is considered to be the primary toxic form while the more prevalent ammonium	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: One volume of liquid anhydrous ammonia released from a container at 15 °C will dissipate into approximately 850 volumes of gaseous ammonia. However, liquid anhydrous ammonia may take considerable time to evaporate due to its latent heat of evaporation. The hazardous nature of anhydrous ammonia requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		hydroxide (NH <sub>4</sub> OH) form is much less harmful. Increases in pH above 7.5 will lead to an increased level of non-ionised ammonia (NH <sub>3</sub> ). Ammonia is readily oxidized to nitrite which is also toxic to marine life. In water, ammonia volatilizes to the atmosphere, is transformed to other nitrogenous compounds, or may be bound to materials in the water. Environmental fate (exposure): 48 hr LC50 (daphnia magna): 24 mg/L; 48 hr LC50, S (daphnia magna) :189 mg/L; 24 hr LC50 (rainbow trout): fertilised egg:> 3.58 mg/L; alevins (0-50 days old): 3.58 mg/L; fry (85 days old): 0.068 mg/L; adults: 0.097 mg/L. Classification: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL. Classification of the chemical: Flammable Gases - Category 2 Gases under pressure - Liquefied Gas Acute Inhalation Toxicity - Category 3 Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Specific target organ toxicity (single exposure) - Category 3 Acute Aquatic Toxicity - Category 1		mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria. • Regarding community safety, where there is any risk of the release of fumes associated with ammonia, purpose built gas detectors are used. These are permanently located near the perimeters of sites that have ammonia storage tanks, ensuring that any potential leaks can be responded to. The detectors set off an alarm to response teams at any time of the day or night if gas is detected.
Nitric acid (aqueous HNO <sub>3</sub> solution)	Direct operations	Human Health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation: Breathing in mists or aerosols may produce respiratory irritation. Ecosystem health: Nitric acid (HNO <sub>3</sub> ) is highly soluble in water to form an aqueous HNO <sub>3</sub> solution, a strong acid. Nitric acid is	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Nitric acid is manufactured and used to make ammonium nitrate under strictly controlled conditions in the on-site manufacture of ammonium nitrate. Spills must be prevented due to the corrosive nature of the substance. Spills to waterways have the potential to lower the pH of the water, affecting aquatic life. The hazardous nature of nitric acid requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		<p>slightly toxic to aquatic organisms based on ecotoxicity testing. Nitric acid may decrease the pH of aquatic systems to less than pH 5 which may be toxic to aquatic species. The bioconcentration potential of nitric acid is low and its potential for mobility in soil is very high. Nitric acid will not biodegrade readily in the environment, but will ionize in water and be readily neutralized by the natural buffering capacity (alkalinity) present in the soil and surface water. The nitrate ion will ultimately become an inorganic nutrient for plant species.</p> <p>Classification: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL. Classification of the chemical: Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1A Eye Damage - Category 1</p>		<p>Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Wet scrubbers are used to control fume from storage tanks</p>
Sulphuric acid (aqueous H <sub>2</sub> SO <sub>4</sub> solution)	Direct operations Supply chain	<p>Human Health: Skin: Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and severe burns. Eye: Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible permanent eye damage. Sensitisation: Not classified as causing skin or respiratory sensitisation. Over exposure may result in mucous membrane irritation of the respiratory tract, coughing, bronchitis, ulceration, bloody nose, lung tissue damage and deterioration of pulmonary function.</p> <p>Carcinogenicity: Occupational exposure to strong inorganic acid mists containing sulphuric acid is classified as carcinogenic to humans (IARC Group 1). STOT – single exposure Aspiration: Not expected to present an aspiration hazard. Ecosystem health: Sulphuric acid is miscible with water and its dilution</p>	<p>Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages</p>	<p>Sulphuric acid is used under strictly controlled conditions in the on-site manufacture of ammonium phosphate fertilisers. Spills must be prevented due to the corrosive nature of the substance. Spills to waterways have the potential to lower the pH of the water, affecting aquatic life. The hazardous nature of sulphuric acid requires emergency and spill procedures to be effective to avoid both human and environmental exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and</p>

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		will increase the velocity of downward movement in the soil where it may dissolve the soil material. Sulphuric acid is harmful to aquatic life in very low concentrations. It has moderate acute (short-term) toxicity on aquatic life and has moderate chronic (long-term) toxicity to aquatic life. Small quantities of sulfuric acid will be neutralised by the natural alkalinity in aquatic systems, however, larger quantities may lower the pH for extended periods of time. Classification (Australia: CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA GHS classification(s): Skin Corrosion/Irritation: Category 1A		mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Wet scrubbers are used to control fume from storage tanks
Urea	Direct operations Distribution network Product use	Human Health: Skin: Contact may result in irritation, redness, pain and rash. Eye: Contact may result in irritation, lacrimation, pain and redness. STOT – single exposure: Over exposure may result in irritation of the nose and throat, with coughing. Ecosystem health: (Pigeon)- Subcutaneous-LDLO=16,000 mg/kg. Since Urea is a fertilizer, it may promote eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA. Classification (Australia): NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. No signal word, pictograms, hazard or precautionary statements have been allocated.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Human Health and Safety: • The Group has strict processes around the stewardship, movement and safe handling of dangerous goods and other chemicals. • Supply of Safety Data Sheets (SDS), which comply with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and meet the requirements of the Australian Dangerous Goods Code and Safe Work Australia criteria, and labelling compliant with the National Code of Practice for Fertilizer Description and Labelling. Environmental Health: Although of low toxicity to aquatic life, single superphosphate fertilisers can cause algal bloom, and therefore potential eutrophication, in still waterways due to provision of phosphates, which are a form of plant nutrition. It is therefore necessary to prevent/immediately clean up any spills to prevent their entry into waterways. • Dust suppression – wind breaks/covered/enclosed stockpiles, fabric filter/baghouses • Wastewater treatment plants • Road sweepers and wheel washes to prevent any product leaving the site. • IPL promotes the Fertcare principles and code of practice for

Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
				responsible fertiliser use, a joint initiative between Fertilizer Australia Inc. and the Australian Fertiliser Services Association, to our customers.
Sodium hypochlorite (Cooling water treatment)	Direct operations	Human Health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation: Breathing in mists or aerosols may produce respiratory irritation. Delayed (up to 48 hours) fluid build up in the lungs may occur. Ecosystem health: Acute aquatic toxicity (Category 1). Very toxic to aquatic life. LC50 (fish) - 0.07-5.9 mg/l – 48h. Classification (Australia); CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. HAZARDOUS CHEMICAL. Classification of the chemical: Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Acute Aquatic Toxicity - Category 1 GHS Classification: Corrosive to metals (Category 1). Skin corrosion (Sub-category 1C). Eye damage (Category 1).	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Used as an onsite cooling water treatment, sodium hypochlorite is very toxic to aquatic life. The corrosive nature of sodium hypochlorite requires handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites.
Sodium hydroxide (Cooling water treatment)	Direct operations	Human health: Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury. Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Inhalation:	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages	Used as an onsite cooling water treatment, sodium hypochlorite is very toxic to aquatic life. The corrosive nature of sodium hypochlorite requires handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management



Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		Breathing in mists or aerosols may produce respiratory irritation. Ecosystem health: Toxic for aquatic organisms. Harmful effect due to pH shift. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. HAZARDOUS CHEMICAL. Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1A Eye Damage - Category 1 GHS classification: Corrosive to Metals: Category 1 Skin Corrosion/Irritation: Category 1A		strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites.
Diesel	Direct operations Supply chain Distribution network Product use	Human health: Ingestion: Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central nervous system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung). Eye contact: May be an eye irritant. Overexposure to diesel exhaust fumes may result in eye irritation. Skin contact: Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Repeated exposure may cause skin dryness or cracking. Inhalation: Breathing in vapour may produce respiratory irritation. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Harmful if inhaled. Inhalation of diesel fuel has been reported to result in acute and	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Providing best practices instructions on product use	Used as an onsite fuel and as a component of explosives emulsions, diesel is toxic to aquatic life. The potential impacts of diesel on human health also require handling procedures to be effective to avoid human exposure. • HSE management system is in place with clear principles and policies communicated to employees, including appropriate Personal Protective Equipment. • HSE risk management strategies are employed at all times and across all sites. Incidents are reported and investigated, and learnings are shared throughout the Group. • Management undertakes risk identification and mitigation strategies across all sites. • IPL undertakes business continuity planning and incident preparedness across all sites. • Supply of specialist knowledge in product use via our technical support teams and our Dyno Consult business. At many customer sites, IPL employees handle the product as specialist contractors during use.



Potential water pollutant	Value chain stage	Description of water pollutant and potential impacts	Management procedures	Please explain
		<p>persistent lung damage in humans. Overexposure to diesel exhaust fumes may result in headaches, nausea and respiratory irritation. Ecosystem health: Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life. Material floats on water. Films formed on water may affect oxygen transfer between the water and the atmosphere and cause adverse effects on aquatic organisms. Prevent entry of the material into waterways, sewers, basements or confined areas. Classification (Australia): CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA. Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS. Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs. HAZARDOUS CHEMICAL. Flammable liquids - Category 4 Aspiration hazard - Category 1 Skin Irritation - Category 2 Acute Inhalation Toxicity - Category 4 Carcinogenicity - Category 2 Specific target organ toxicity (repeated exposure) - Category 2 Acute Aquatic Toxicity - Category 2 Chronic Aquatic Toxicity - Category 2</p>		

## W3.3

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### (W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

#### W3.3a

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### (W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

#### Direct operations

#### Coverage

Full

#### Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

#### Frequency of assessment

Annually

#### How far into the future are risks considered?

6 to 10 years

#### Type of tools and methods used

Tools on the market

Enterprise Risk Management

International methodologies

Databases

#### Tools and methods used

WBCSD Global Water Tool

COSO Enterprise Risk Management Framework

ISO 31000 Risk Management Standard

#### Comment

• IPL has a formalised process in place to identify risks, both in the supply chain (including water supply) and in the area of HSE (including water discharge, regulations and licencing) • IPL's risk management methodologies are based on the COSO Enterprise Risk Management Framework and the 31000 Risk Management Standard. • Each business unit has responsibility for identification and management of risks specific to the business. This is managed through an annual risk workshop, register & audits.

#### Supply chain

**Coverage**

Please select

**Risk assessment procedure**

<Not Applicable>

**Frequency of assessment**

<Not Applicable>

**How far into the future are risks considered?**

<Not Applicable>

**Type of tools and methods used**

<Not Applicable>

**Tools and methods used**

<Not Applicable>

**Comment**

**Other stages of the value chain**

**Coverage**

Please select

**Risk assessment procedure**

<Not Applicable>

**Frequency of assessment**

<Not Applicable>

**How far into the future are risks considered?**

<Not Applicable>

**Type of tools and methods used**

<Not Applicable>

**Tools and methods used**

<Not Applicable>

**Comment**

## W3.3b

### (W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal and discharge are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. The WBCSD Water tool estimates Annual Renewable Water Supply (actual, in m3/person/year) to 2025 for each manufacturing facility.
Water quality at a basin/catchment level	Relevant, always included	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal and discharge are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply. The WBCSD Water tool estimates Annual Renewable Water Supply (actual, in m3/person/year) to 2025 for each manufacturing facility.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.
Implications of water on your key commodities/raw materials	Relevant, always included	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal and discharge are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply.
Water-related regulatory frameworks	Relevant, always included	Water is a key raw material for manufacturing. IPL typically has access to regulated municipal water supply. Where this is not the case long-term supply agreements are put in place. Withdrawal and discharge are usually made under licence with local regulatory authorities who have responsibility for long term water management plans. Decisions on water treatment / recycling / reduction are normally driven by a cost/benefit assessment, regulatory demands and/or securing quality supply.
Status of ecosystems and habitats	Relevant, sometimes included	The WBCSD Tool identifies no biodiversity hotspots relevant to IPL operations. Many IPL sites are non-discharge sites.

	Relevance & inclusion	Please explain
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	All IPL facilities currently provide access to fully-functioning WASH services for all employees.
Other contextual issues, please specify	Please select	

### W3.3c

#### (W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, sometimes included	Australian fertiliser customers are included due to risks associated with variable rainfall in Australia. In regard to water supply risks, IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Employees	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Investors	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Local communities	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.
NGOs	Not relevant, explanation provided	IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation.
Other water users at a basin/catchment level	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.

	Relevance & inclusion	Please explain
Regulators	Relevant, sometimes included	All IPL sites are in regions where regulators manage water supply and discharge through licensing.
River basin management authorities	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.
Statutory special interest groups at a local level	Relevant, sometimes included	At sites where water resource management involves multiple stakeholders, IPL engages with local authorities and water bodies in order to consider all stakeholder views. For example, IPL engages with the State Engineers Office In Wyoming to ensure all local stakeholders are included in water availability and quality issues in Cheyenne, USA, where the local community depends upon a groundwater resource.
Suppliers	Relevant, sometimes included	Included only where suppliers of water.
Water utilities at a local level	Relevant, sometimes included	IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water and between 99.59 and 100 percent of the population served with improved sanitation. At some major manufacturing sites, utilities at a local level are the main water supply for manufacturing (mainly cooling purposes).
Other stakeholder, please specify	Please select	

### W3.3d

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**(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.**

IPL has a formalised process in place to identify risks in the supply chain, including water supply. As per the Company's Group Risk Policy, the oversight and management of material business risk is managed within a comprehensive risk management process, overseen by the Board Audit and Risk Management Committee. Risks are typically categorised as follows:

health & safety, environment;

finance;

customer service / business interruption; and

community, reputation & image.

IPL has also developed a detailed contingency planning process within its businesses. The process systematically identifies product supply exposure in relation to IPL's operations, including water, and determines the next best alternative supply point or the risk mitigation measures that might need to be taken to mitigate shortages in supply. In addition, the WBCSD Global Water Tool is completed each year for long term projections and reviewed by the Chief Risk Officer.

## W4. Risks and opportunities

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### W4.1

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**(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?**

No

#### W4.1a

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**(W4.1a) How does your organization define substantive financial or strategic impact on your business?**

A substantive 'financial or strategic impact' is defined by IPL as one which affects the organisation's objectives in a manner that is considered material to the extent defined by the IPL Board and recorded in the IPL Risk Matrix. Because IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation, no sites have been identified as potentially having a water-related risk of financial or strategic impact on IPL's business.

#### W4.2b

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**(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	The WBCSD Water Tool identifies four Australian IPL facilities as located in areas with ratings of 'Extremely High' 'Annual Renewable Water Supply Per Person (1995)' and 'Annual Renewable Water Supply Per Person (Projections for 2025)' and a fifth site as being located in an area of 'Extremely High Baseline Water Stress'. However, four of these sites do not require large volumes of water for manufacturing and are supplied by municipal water bodies with long term water management plans, while the fifth site has access to a large, remote groundwater supply which is recharged annually during the wet season. In addition, one site located in Cheyenne, Wyoming, USA has also been identified as being located in an area of 'Extremely High Baseline Water Stress' (WRI Aqueduct "watershed Output" tab). However, water for this site is accessed from a local aquifer managed by the State Engineers Office in Wyoming, ensuring long term supply. All of these sites are located in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation.



## W4.2c

**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	As a global manufacturer and distributor, we have flexibility over the markets we supply and source from.

## W4.3

**(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

No

## W4.3b

**(W4.3b) Why does your organization not consider itself to have water-related opportunities?**

	Primary reason	Please explain
Row 1	Other, please specify (Nature of products, services & customers)	The nature of our products, services and customers does not provide water related opportunities. In addition, IPL operates primarily in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation.

## W6. Governance

### W6.1

**(W6.1) Does your organization have a water policy?**

No

### W6.2

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

#### W6.2a

**(W6.2a) Identify the position(s) of the individual(s) on the board with responsibility for water-related issues.**

Position of individual	Please explain
Chief Executive Officer (CEO)	IPL's highest governing body, the Board of Directors, is responsible for charting the direction, policies, strategies and financial objectives of the Company. The Board serves the interests of the Company and its shareholders, as well as other stakeholders including employees, creditors, customers and the community, in a manner designed to create and continue to build sustainable value. The Board operates in accordance with the principles set out in its Board Charter, which sets out the Board's own tasks and activities, as well as the matters it has reserved for its own consideration and decision-making. Day-to-day management of Company affairs and the implementation of the corporate strategy and policy initiatives, including those relating to water, are formally delegated to the Managing Director & CEO. The Managing Director & CEO and his/her direct reports form the Executive Team.

#### W6.2b

**(W6.2b) Provide further details on the board's oversight of water-related issues.**

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Overseeing major capital expenditures	Water resource considerations are factored into location planning for new operations. The manufacture of ammonia requires access to large quantities of good quality fresh-water for cooling. IPL manages water risks by ensuring that new ammonia manufacturing facilities are located close to abundant sources of freshwater.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
			For example, the Waggaman, Louisiana plant was recently constructed close to the Mississippi River in Louisiana, USA, where surface water is obtained under EPA licence, for non-contact cooling. The water is treated and returned to the river as freshwater. Where such location is not possible (for example, where some of IPL's mining customers operate in Australia), a long-term supply contract is secured, usually with the governing body who manages long term water supply in the relevant basin, or with the EPA for groundwater extraction.

### W6.3

**(W6.3) Below board level, provide the highest-level management position(s) or committee(s) with responsibility for water-related issues.**

**Name of the position(s) and/or committee(s)**

Chief Risk Officer (CRO)

**Responsibility**

Assessing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

As important matters arise

**Please explain**

The Chief Risk Officer reports to the Audit and Risk Management Committee, which is a sub-committee of the IPL Board.

**Name of the position(s) and/or committee(s)**

Safety, Health, Environment and Quality committee

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

As important matters arise

**Please explain**

The HSEC Committee is a sub-committee of the IPL Board. The HSEC function manages environmental compliance in relation to water issues such as withdrawals and discharges made under EPA licencing, as well as potential impacts (including those relating to water) on health, safety, the environment and the community.

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**Name of the position(s) and/or committee(s)**

Facilities manager

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

Not reported to board

**Please explain**

Site Managers manage water related issues regarding supply and onsite uses and report to the President of Global Manufacturing and/or the relevant Business President who reports to the CEO, who is a member of the IPL Board and also reports to the IPL Board.

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**W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4**

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**(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

No, and we do not plan to introduce them in the next two years

**W6.5**

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**(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?**

No

## W7. Business strategy

### W7.1

**(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?**

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	No, water-related issues were not reviewed and there are no plans to do so	<Not Applicable>	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.
Strategy for achieving long-term objectives	No, water-related issues were not reviewed and there are no plans to do so	<Not Applicable>	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.
Financial planning	No, water-related issues were not reviewed and there are no plans to do so	<Not Applicable>	IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia and the USA.

### W7.2

**(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1					

## W7.3

### (W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	No, but we anticipate doing so within the next two years	With the release of the G20 Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) report, IPL recognised the need to review its processes in assessing and managing climate change related financial risks and opportunities, and in formulating the related disclosures which inform investors. In 2017, we engaged a specialist third party to conduct a high-level assessment of our climate-related financial risks and opportunities as well as an assessment of our current disclosures against the recommendations of the TCFD. This assessment will be completed in early 2018 and will coincide with a review of business objectives and strategy being led by IPL's new CEO, Jeanne Johns, who was appointed in 2017.

## W7.4

### (W7.4) Does your company use an internal price on water?

#### Row 1

#### Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

#### Please explain

IPL operates all of its major manufacturing sites in countries identified by the WBCSD Tool as having between 98.76 and 100 percent of the population served with improved water, and between 99.59 and 100 percent of the population served with improved sanitation. These are Australia, Canada, and the USA. For this reason, access to water is managed as per supply chain management, and other environmental issues relating to water, including discharge, are managed under the relevant EPA legislation and licencing.

## W8. Targets

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### W8.1

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**(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.**

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Site/facility specific targets and/or goals	Targets are monitored at the corporate level	Targets for water use reduction are set on a site-by-site basis, as opportunities and water issues vary between sites. For example, at IPL's Phosphate Hill fertiliser manufacturing site where water is accessed from a groundwater aquifer, a target of a 5% reduction in total withdrawal has been set for 2018 against 2017 withdrawal, with a further 5% reduction in 2019. See <a href="https://www.incitepivot.com.au/sustainability/ipl-online-sustainability-report/sustainability-report/our-targets">https://www.incitepivot.com.au/sustainability/ipl-online-sustainability-report/sustainability-report/our-targets</a>

#### W8.1a

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**(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.**

**Target reference number**

Target 1

**Category of target**

Water withdrawals

**Level**

Site/facility

**Primary motivation**

Risk mitigation

**Description of target**

5% reduction in total withdrawal in 2018 against 2017 withdrawal, with a further 5% reduction in 2019

**Quantitative metric**

Absolute reduction in total water withdrawals

**Baseline year**

2017

**Start year**

2017

**Target year**

2019

**% achieved**

0

**Please explain**

Measurement of progress towards target has not yet begun.

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**Target reference number**

Target 2

**Category of target**

Other, please specify (Conduct water balance projects)

**Level**

Site/facility

**Primary motivation**

Risk mitigation

**Description of target**

Completion of water balance projects at three Australian sites to identify opportunities for greater efficiency

**Quantitative metric**

Other, please specify (Number of projects begun / completed)

**Baseline year**

2017

**Start year**

2018

**Target year**

2018

**% achieved**

50

**Please explain**

IPL has targeted the completion of water balance projects at three Australian manufacturing sites where water is a material issue.



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## W9. Linkages and trade-offs

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### W9.1

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**(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?**

Yes

#### W9.1a

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**(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.**

##### **Linkage or tradeoff**

Tradeoff

##### **Type of linkage/tradeoff**

Increased energy use

##### **Description of linkage/tradeoff**

In order for IPL to ensure water supply at some sites, and manage water use and discharge at some sites, water treatment plants are used. This increases energy use and therefore greenhouse gas emissions related to these sites.

##### **Policy or action**

Install water treatment plant to ensure water supply and/or manage water use and discharge.

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##### **Linkage or tradeoff**

Tradeoff

##### **Type of linkage/tradeoff**

Increased GHG emissions

##### **Description of linkage/tradeoff**

In order for IPL to ensure water supply at some sites, and manage water use and discharge at some sites, water treatment plants are used. This increases energy use and therefore greenhouse gas emissions related to these sites.

##### **Policy or action**

Install water treatment plant to ensure water supply and/or manage water use and discharge.

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## W10. Verification

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### W10.1

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**(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?**

No, we do not currently verify any other water information reported in our CDP disclosure

## W11. Sign off

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### W-FI

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(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

### W11.1

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(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Karen Durand Corporate Sustainability Manager	Environment/Sustainability manager

### W11.2

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(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

### Submit your response

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In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms