

## Orica Yarwun and the Environment



September 2017

### Orica Yarwun and the Environment

Orica Yarwun is located 9km west of Gladstone in Central Queensland, in close proximity to a deep water port for the export and import of industrial products. It is part of the Gladstone Regional Shire Council located within the Gladstone State Development Area (GSDA) Yarwun Precinct, which is administered by the Department of State Development, Infrastructure and Planning.

The site operates as multifunction manufacturing complex which includes a Chemical Complex (1 x Sodium Cyanide Plant) as well as an Ammonium Nitrate Complex (3 x Nitric Acid Plants, 2 x Ammonium Nitrate Plants, an Emulsion Phase Plant and an Expanded Polystyrene Plant).

In addition Orica Yarwun operates two raw material import facilities at the Fisherman's Landing port facility located approximately 5 km north of the main site. These facilities incorporate ammonia and caustic soda unloading, storage and delivery to the site through underground pipe work.

The site has a number of large industrial neighbours including Rio Tinto Yarwun, Cement Australia and the Wiggins Island Coal Export Terminal (WICET).

### Valuing People and the Environment

Orica operates complex facilities that provide a great benefit to many Australian businesses and consumers, and we always aspire to the highest environmental and safety standards.

This includes minimising the impacts our activities may have on the community and the environment.

Improvement projects are regularly undertaken at the site to ensure that environmental performance continues to meet the standards expected by the community, regulatory bodies and Orica.

### Environmental Monitoring and Management

#### 1. Air Emissions and Air Quality

Orica undertakes a range of continuous, weekly, monthly and annual monitoring of emissions from a number of stacks on the site. Examples of pollutants monitored for include nitrogen dioxide, ammonia, chlorine, ammonium nitrate and hydrogen cyanide. To ensure we are aware of our performance against our environmental permits, continuous monitoring information is available to plant operational personnel to assist with operating the processes in a manner that minimises the discharge of pollutants.



Orica Yarwun's facility control room.



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## 2. Water Emissions

The site is licensed to discharge effluent to Port Curtis via the Gladstone Regional Council's Yarwun trade waste facility. Comprehensive monitoring is undertaken to ensure that the water quality meets the required quality and quantity characteristics. This includes continuous monitoring of parameters such as pH, temperature, flow, and the analysis of effluent batch samples for a range of pollutants including ammonia, nitrates and total cyanide. In addition, the site undertakes regular sampling of storm water quality.

## 3. Greenhouse Gas Emissions

Greenhouse gas emissions from the site include carbon dioxide and nitrous oxide. Carbon dioxide emissions occur as a result of the use of natural gas as a feed for our Cyanide Plant and also as a fuel for furnaces and boilers.

Orica is committed to reducing our greenhouse gas emissions through maximising the efficiency of our processes to ensure that the tonnes of greenhouse gases generated per tonne of product are minimised.

In addition, we are investigating improvement opportunities to install nitrous oxide abatement technology on our existing nitric acid plants to minimise the emission of this greenhouse gas.

## 4. Soil and Groundwater Quality

Orica has in place programs to upgrade infrastructure on the site to minimise the potential for contamination of soil and groundwater as a result of our operations.

## Regulation and Auditing

Orica's Yarwun site is a licensed and regulated facility. It is important that operations at the Yarwun site maintain high environmental and safety standards to minimise the impact of the operations on the local environment and community.

The site holds an Environmental Authority under the Environmental Protection Act 1994 which is issued by the Department of Environment and Heritage protection (DEHP).

Orica submits annual reports (known as annual returns) to the DEHP. The annual return is a statement of compliance with licence conditions and reports information as required by the licence.

The annual return summarises Orica's monitoring results and provides details of non-compliances with the licence conditions. Any non-compliance is treated seriously and Orica investigates all breaches to enable appropriate controls to be put in place to minimise the risk of a recurrence and to share learning's within the organisation.

Orica is also required to report our emissions on an annual basis in the National Pollution Inventory (NPI). This information includes a combination of measured emissions and estimates based on government developed emission factors. The NPI reports are available at [www.npi.gov.au](http://www.npi.gov.au).



*Orica Yarwun's Ammonium Nitrate plants.*



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