BOTANY INDUSTRIAL PARK PTY LTD

BIP Emergencies

What To Do in an Emergency

The Botany Industrial Park site has safely manufactured chemical products for over 80 years. Whilst an emergency event is very unlikely, we have in place an emergency response procedure, which is coordinated with other BIP Operations and the Emergency Services.

In the case of a major emergency, the BIP will ensure that up-to-date information is made available to the authorities and the community. It will ensure that there is co-ordination and co-operation between plants and the appropriate combat agencies.

If a major emergency were to occur, the BIP recommends that you immediately:

1. **Go indoors.**
2. **Close external doors & windows.**
3. **Switch off any air conditioners, heaters or exhaust fans.**
4. **Remain indoors until you receive instructions from the emergency services.**
5. **Also, tune into the radio or television and listen for information. The 'all clear' will be given by the emergency services.**
6. **After the 'all clear' has been given open doors and windows to restore ventilation.**

Please cooperate fully with the instructions given by the emergency services.

Emergency Response Service
1800 033 111


Aerial View of Botany Industrial Park

If you have any queries or comments, or would like further information about any topic mentioned in this brochure, please contact our 24-hour toll-free community hotline

For Complaints, Enquiries and Feedback

Community Hotline: 1800 025 138

Orica Australia Pty Ltd
ACN 004 117 828
www.orica.com
www.oricabotanytransformation.com

Qenos Pty Ltd
ACN 054 196 771
www.qenos.com

Huntsman Corporation Australia Pty Ltd
ACN 083 984 187
www.huntsman.com

BOTANY INDUSTRIAL PARK PTY LTD

Safety, Health and Environment Update 2012

Responsible Care® - A Community commitment

BOTANY INDUSTRIAL PARK PTY LTD

BIP EMERGENCIES

The BIP and member companies maintain well-established emergency procedures and conduct regular training exercises.

All member companies rely also upon the Orica Emergency Response Service to provide specialist advice to the public, emergency services and customers in the event of incidents relating to the transport, storage, use and disposal of their raw materials and products.

The BIP has on-site emergency response capabilities including:

- *a site fire water supply system with eight million litres of stored firewater*
- *a site emergency response vehicle fitted with fire monitor and carrying 2200 litres of firefighting foam and other resources to manage chemical incidents*
- *personnel trained to respond to incidents and work with the emergency services to manage incidents*

All plants conduct regular testing of alarm systems and leak detection systems to ensure they are available and in good working order. Neighbours may hear the several alarms being tested around the site on Thursdays.

Joint exercises are regularly conducted with the BIP Safety Team and local emergency services personnel.

Emergency Response Service

1800 033 111

BOTANY INDUSTRIAL PARK PTY LTD

Welcome to the 2012 edition of the Botany Industrial Park Pty Ltd (BIP) community information brochure. This brochure, first produced in 1994, describes the businesses that make up the BIP, our continuing commitment to safety, our environmental performance, and our community outreach programs. More importantly, it highlights the emergency management procedures for BIP and how you can contact us for more information.

Introduction

The BIP, previously owned in its entirety by Orica (the former ICI Australia), was subdivided in 1998.

The following three companies share the majority of the site and make up the BIP, which occupies over 100 hectares and is the third largest complex of its type in Australia.

- ***Orica Australia Pty Ltd*** *now operates the ChlorAlkali Plant, Groundwater Treatment Plant and manages site legacy issues, including the Former ChlorAlkali Plant site.*
- ***Huntsman Corporation Australia Pty Ltd*** *operates the Surfactants Plant. Huntsman is entirely independent of Orica, and operates other facilities across Australia.*
- ***Qenos Pty Ltd*** *operates the Site Utilities, Olefines, Alkathene and Alkatuff Plants. Formerly operated as a joint venture plastics manufacturing company between Exxon-Mobil and Orica, Qenos is now a wholly-owned subsidiary of ChemChina and is entirely independent of Orica. It operates another petrochemical complex in Altona, Victoria.*

More information on each company may be found on their web sites as listed on the back of this publication.

In addition to these three larger operating companies Qenos, Huntsman and Orica, the BIP also co-ordinates activities with other companies that lease land on site from Orica. These include Air Liquide in Baker Street at the northern end of the site; KBR (engineering) which occupies offices on the corner of Denison Street and Beauchamp Road; and Transfield Services ("TSL") (maintenance, projects and turnarounds) which is located at the north end of the site, off Corish Circle.

The BIP was established in December 1998 as part of a requirement by the then NSW Department of Urban Affairs and Planning, in order to ensure that established safety, health and environmental standards were maintained.

1. Constituent companies

Huntsman
Surfactants
Coolant
Brake fluid

Qenos
Alkathene
Alkatuff
Olefines
Site Utilities

Orica
Chemicals
Remediation Projects & Property

2. Lessees

TSL
Air Liquide (ALA)
KBR

Although the site has been subdivided, much infrastructure remains integrated, such as water, electricity supply, drainage, and roads. The provision of essential services, such as occupational health services and environment management, is still centralised through the BIP, which co-ordinates the common activities and provides a single point of contact for the regulatory authorities and the community.

Commitment to Safety

All members of the BIP are strongly committed to the safety of their personnel, the community and the environment as reflected in their Safety, Health and Environment policies.

Orica is committed to Safety, Health and the Environment (SH&E). Orica's SH&E Policy states: "We will manage all our activities with concern for people and the environment and will conduct our business for the benefit of society without compromising the quality of life of future generations." We have a vision 'that all work related injuries, illnesses and environmental incidents are preventable'. This is achieved by focussing on safety through Plant, People and Procedures. Our workforce is proud of our SH&E performance.

Huntsman is "committed to achieving excellence in Environment, Health and Safety (EHS) protection in all our activities. Our operations will be conducted safely, efficiently and in a socially responsible manner; we will protect the health of our associates, contractors, customers, and the local community; and we will comply with environmental standards."

At **Qenos**, "we believe that all injuries, occupational illnesses and environmental incidents are preventable. We are committed to, and everyone who works at Qenos must show responsibility for, operations, products and practices that protect the safety and health of our employees, contractors, customers and the community, as well as protecting the environment. "

Responsible Care®

Each BIP company on the site who is a signatory to the Plastics and Chemicals Industry Association's (PACIA) Responsible Care® commits to its guiding principles. These principles ensure that the chemical industry meets community expectations for protection of people and the environment, the manufacture of safe products and the operation of a sustainable industry.

Botany Industrial Park (BIP)

The BIP team offers a point of contact with external authorities and the community through the BIP Operations Manager, who oversees the management of the site's interaction with the regulatory authorities, such as the Environment Protection Authority (EPA), the Department of Planning & Infrastructure, Sydney Water, WorkCover, local government, police and Fire & Rescue NSW. The BIP Operations Manager also ensures consistently high standards of SH&E management from all businesses on the site. The team provides BIP plants with specialist advice on occupational health and environmental management. The systematic and proactive approaches in these areas formerly used by ICI, and then Orica, are also employed by all operating companies. In addition, the BIP Operations Manager has the responsibility of co-ordinating the use of common resources such as the roadways and security.

Over the last year, the BIP team has:

- *successfully managed Dangerous Goods Storage notifications to WorkCover and trade waste agreements with Sydney Water. (These are living documents. The companies are updating their depots in accordance with the parts of the documents that are relevant to them.);*
- *conducted extensive workplace health assessments;*
- *provided ongoing support to each BIP plant;*
- *continued to represent all companies in professional and industry associations;*

- *played an active part in the EPA-industry consultation process through membership of the Australian Sustainable Business Group, and PACIA;*
- *been a participant in EPA's Sustainability Advantage Program;*
- *participated in Sydney Water's Customer Forum;*
- *interacted with the EPA on revisions to licences;*
- *assisted in compliance audits conducted by the EPA; and*
- *conducted numerous tours of the BIP for educational and community groups*

The BIP formed the Community Consultative Committee in June 1999, comprised of local residents, representatives from local businesses, EPA, WorkCover and Sydney Water, officers from the City of Botany Bay Council, local school principals and representatives from each of Qenos, Huntsman and Orica. The BIP Operations Manager chairs the meetings which are held on a regular basis to allow dialogue between industry, council and residents. Any concerns in relation to safety, health and environment are able to be raised by the local community and responded to at the meetings. If you would like to know more about these meetings, please contact the community hotline number printed on the back of this publication.

Major Hazard Facilities

"Major Hazard Facilities" (MHF) may be regarded as large chemical manufacturing and/or storage facilities. Orica, Huntsman and Qenos have all completed Notification as MHFs. In line with NSW WorkCover requirements the BIP MHFs each submitted their Safety Reports in February 2012. A Safety Report is a written presentation of the technical, management and operational information covering the hazards and risks that may lead to a major accident at a major hazard facility and their control, and which provides justification for the measures taken to ensure the safe operation of the facility.

Other Companies Located within BIP

Transfield Services ("TSL") has a significant presence on the BIP site, as it is the principal alliance contractor to provide logistical support to maintenance and repair activities for all plants.

KBR provides specialist engineering support and a central drawing office to all BIP plants.

Air Liquide provide some gases to the BIP plants, but operate independently.

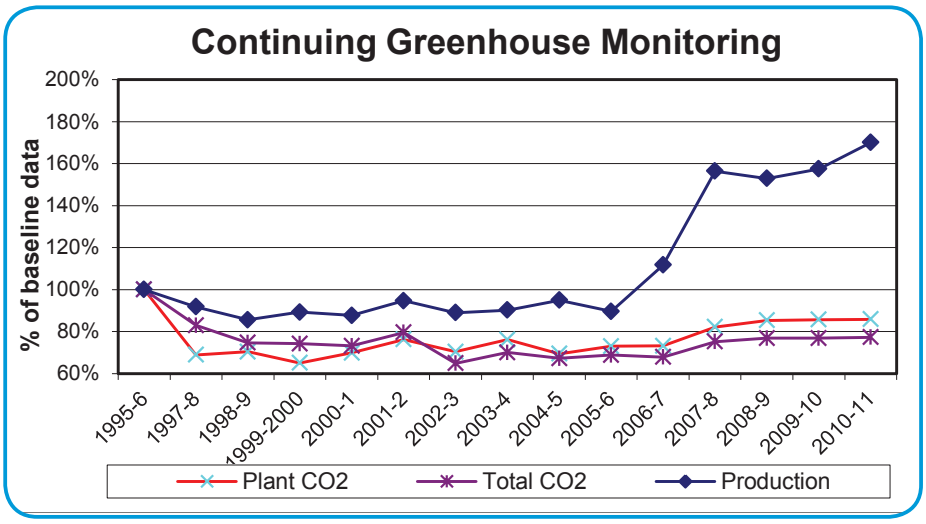
BIP Environmental Data 2010-11

For many years, Orica published its emissions as part of its waste minimisation strategy. Materials subject to reporting under the National Pollutant Inventory (NPI) have always been a part of this reporting program. The following table is a summary of the data supplied to Environment Australia for the combined BIP companies for the years ending June 2011 (Orica and Huntsman) and September 2011 (Qenos), detailing emissions to atmosphere, as well as transfers to effluent and waste treatment/disposal. This table includes only those materials for which emissions/transfers were over 1 kg per annum and are expressed here in tonnes per annum. There were no emissions to waters exceeding 1kg.

NPI Compounds Released to Atmosphere (tonnes per annum)	
Acetic Acid	0.002
Acetone	0.533
Ammonia (total)	0.100
Arsenic and Compounds	0.023
Benzene	5.688
Beryllium and Compounds	0.006
2-Butanone ("MEK")	0.027
Cadmium and compounds	0.004
Carbon monoxide	69.547
Chlorine	0.338
Chloroform	0.002
Chromium (III) Compounds	0.017
Chromium (VI) Compounds	0.003
Cobalt and Compounds	0.010
Dichloromethane	0.027
Ethanol	0.730
Ethylbenzene	0.011
Ethylene oxide	0.590
Fluoride compounds	25.390
Formaldehyde	0.129
n-Hexane	0.003
Hydrogen sulphide	0.000
Hydrochloric acid	5.009
Lead and Compounds	0.021
Magnesium oxide fume	0.489
Manganese and compounds	0.072
Mercury and Compounds	0.032
Methanol	5.745
Nickel and compounds	0.014
Oxides of Nitrogen	992.876
Particulate Matter 10.0 um (flyash/soot)	19.631
Particulate Matter 2.5 um (flyash/soot)	3.589
Polycyclic aromatic hydrocarbons	0.001
Selenium and compounds	0.063
Sulphur dioxide	215.382
Sulphuric acid	1.241
Tetrachloroethylene	0.002
Toluene	0.815
Total VOC (from combustion)	4.827
Total non-combustion NPI VOC (not otherwise listed)	379.918
Xylenes	0.020
Zinc	0.004
NPI Transfers in Wastes	
Arsenic	0.000
Chlorophenols	0.000
Chromium	0.005
Copper	0.000
Lead	0.003
Mercury	0.212
Nickel	0.004
Sulphuric acid	2336.327
NPI Transfers in Effluent	
Ammonia (total)	21.684
Chloroform	0.032
Cobalt and Compounds	0.005
1, 2-dichloroethane ("EDC")	0.007
Ethylene oxide	1.961
Petroleum HC (flammable)	0.021
Phenol	0.004
Zinc and compounds	1.216

Greenhouse Gas Emissions

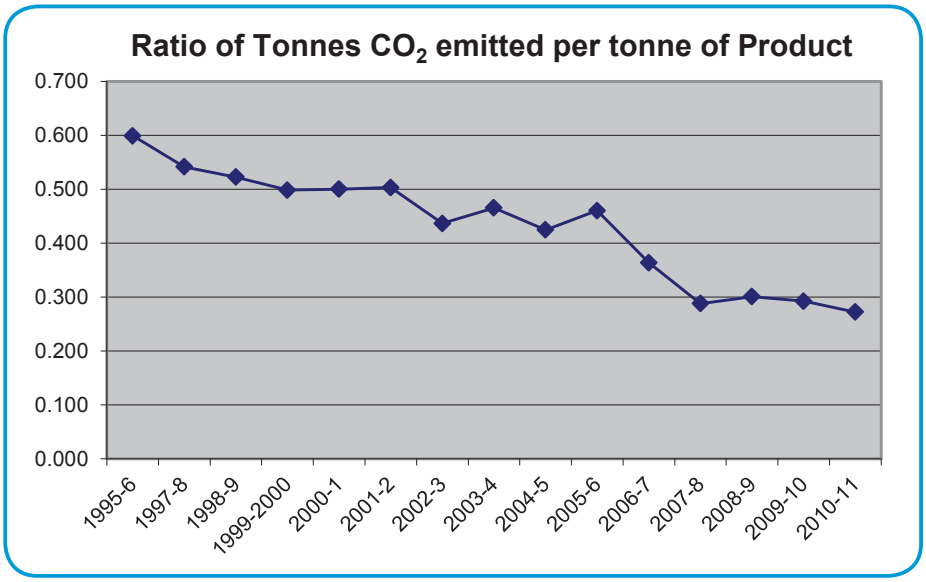
BIP plants continued to monitor greenhouse emissions throughout the past year.



Plant emissions are greenhouse emissions directly from plant.

Total emissions are total greenhouse emissions; that is, plant emissions plus remote power generation.

Even though the absolute tonnage of CO_2 has increased over the last few years, the following graph shows that the ratio of emissions to production has, overall, gradually reduced. This reflects the efficiencies achieved by the various operations on site throughout 2010-11. It also illustrates the continuous attention paid to achieving energy efficient operations across the BIP.



Health and Safety Initiatives 2011

The BIP Occupational Health Service provides ongoing health surveillance programs, including voluntary health checks of workers involved in the Orica Botany Legacy Projects. It also provides the employee with information and advice on risk factors such as hypertension, obesity and smoking.

The Occupational Health Service also provides effective injury and illness management to injured employees resulting in a safe and timely return to work (RTW). The success of this injury management system relies on the cooperative efforts of management, the injured employee and the RTW coordinator.

The Site Safety Unit has many wide-ranging roles, which include providing a round-the-clock emergency response service within the BIP. It has a dedicated fire truck manned 24 hours per day and a volunteer group comprising shift technicians, known as the Botany Emergency Response Team (BERT), who assist the fire crew with the control of any incidents.

Employee hearing assessment

Qenos is the only manufacturer of polythene in Australia and employs nearly1000 people on two sites in Botany, NSW and Altona, Vic.

At Botany, Qenos operates the following plants:

- *Olefines – which manufactures ethylene from ethane (a component of natural gas) piped to Botany from South Australia. Ethylene is the building block for many products made on the site, such as polythene and detergents;*
- *Alkathene – which uses ethylene to make low density polythene, which is found in drink cartons, bin liners, garbage bags, toys and garden equipment;*
- *Alkatuff - which uses ethylene to make linear low density and high density polythenes, which are found in frozen food packaging, shrink wrap , heavy duty piping and rainwater tanks; and*
- *Site Utilities – which operates three boilers and supplies steam, cooling water, townswater, firewater, compressed air, electricity and drainage services to all BIP plants.*

Qenos has an excellent record in safety, health and environmental management, with no serious incidents being recorded for several years. Nonetheless, Qenos continues to take the protection of the workforce, the community and the environment very seriously and is committed to the maintenance of its world-class safety, health and environment operating system. At the heart of this commitment is a team of experts to support Qenos' manufacturing facilities in Botany and Altona in Victoria. This team works with the operations teams to help them manage all aspects of process and personnel safety, occupational hygiene and environment protection.

Recognising our people

Qenos recognises that maintaining its excellent performance in health, safety and the environment lies with those men and women running the plants day-to-day. Qenos is committed to training these employees to the highest level and ensuring that they understand their responsibilities. Qenos encourages its employees to make a positive contribution and to help shape Company direction. Qenos and its employees share a vision and both are totally committed to protecting the workforce, the community and the environment.

Operating safely

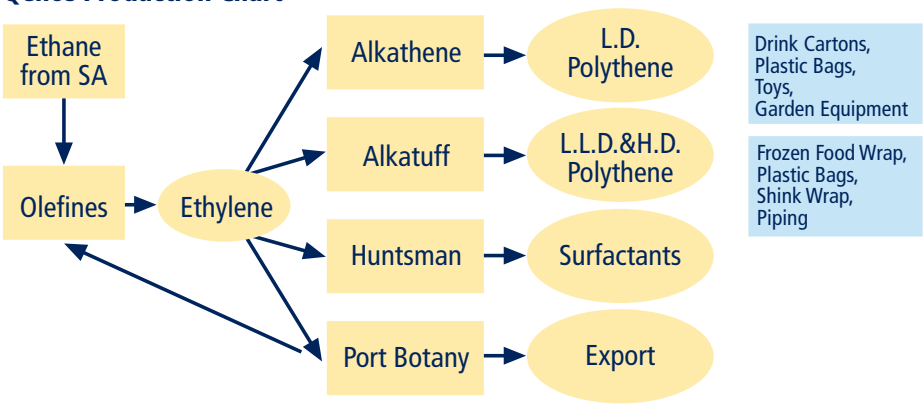
Qenos devotes significant resources directly to programs designed to ensure the long-term safe operation of the facilities, as well as to programs that can enhance the safe and environmentally sustainable production of polyethylene. Qenos is compliant with all the requirements of the NSW MHF legislation.

Safety & Environment, spreading the word

Qenos as part of ChemChina's Bluestar Group, continues to support the development of a new health, safety and environment culture with on-going cooperation between Bluestar Plants in China and Qenos's facilities in NSW and Victoria.

Qenos is also committed to environmental sustainability and the second edition of its Sustainability report was published in early 2012. Of particular note is the construction of a large co-generation plant at Qenos's Altona Site which will produce steam and power for the plants, displacing power derived from coal and reducing Qenos's carbon dioxide burden.

Qenos Production Chart



Flare Systems

Two of the Qenos's plants which use large amounts of flammable gases are equipped with flare systems to manage the safe disposal of excess gases. These flare systems are located at the northern end of the BIP, near Baker Street, just across the railway line from Swinbourne Street. When the plants are operating normally, small amounts of off-gases are destroyed under control in ground furnaces, which have no externally visible flames and which do not emit externally noticeable noise.

However, when the demand is higher, such as during the operations to shut down the plants, the ground furnaces are supplemented by high capacity elevated flares. The Olefines Plant flare is a tubular structure over 70 metres tall. On the infrequent occasions when we use this elevated flare, there is a large, visible flame and accompanying noise. When a planned shutdown occurs, this flare is operated at the lowest rate we can manage, for as short a time as possible, in daylight, to minimise any concern in the community. However, should the plant experience a malfunction which will automatically shut it down for safety reasons, we cannot select the time, duration or intensity of its operation. At such times, it may be very noticeable.

The smaller Alkatuff flare looks like a vertical grey cylinder with burners surrounding the top edge. When it activates, all the burners light up. Again, there is a visible flame and accompanying noise. Just like the Olefines flare, operations due to an automated safety shutdown of the plant are not planned and may therefore occur at any time.

Most of our flare systems rely upon the injection of steam to the flames to obtain complete combustion and ensure a clean flame

It should be remembered that these flares are safety devices, installed for the protection of the community and the plants.

Should you witness their operation, be confident that they represent an assurance of your safety, not a risk to you or your families. However, if you still have any questions, please call the community hotline number provided on the back page.

HUNTSMAN

Enriching lives through innovation

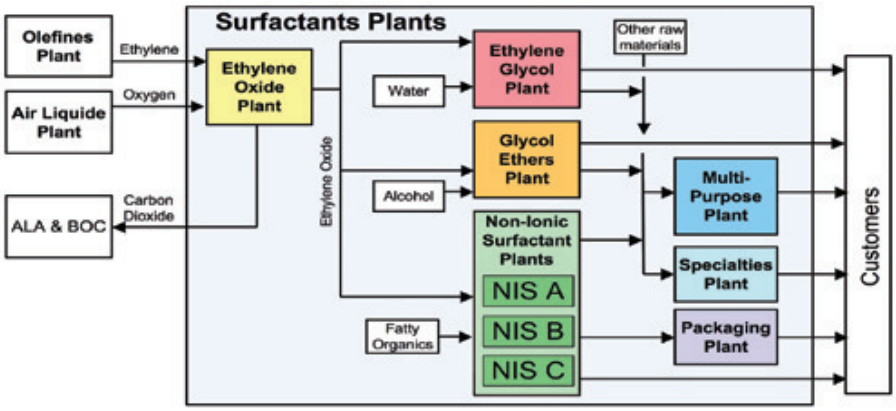
Huntsman Surfactants

Huntsman is a global manufacturer and marketer of differentiated chemicals. Its operating companies manufacture products for a variety of global industries, including chemicals, plastics, automotive, aviation, textiles, footwear, paints and coatings, construction, technology, agriculture, health care, detergent, personal care, furniture, appliances and packaging.

Originally known for pioneering innovations in packaging and, later, for rapid and integrated growth in petrochemicals, Huntsman today has more than 12,000 employees and operates from multiple locations worldwide.

At Botany, its Surfactants Plant manufactures a range of over 300 products for many essential industries including detergents, personal care, agriculture, automotive, mining, textiles and chemicals. Some common product groups include cleaning products, brake fluids and radiator coolants.

Surfactants Block diagram



EHS highlights in 2011 / Q1 2012 were:

- *The total injuries rate for 2011 was the lowest on record.*
- *2 workgroups achieved 6000 days and 3 workgroups achieved 5000 days without a Recordable or Lost Time Injury*
- *Safety improvements projects during 2011 included ongoing improvements in instrumentation and control systems as well as the refurbishment or replacement of 2 tanks.*
- *The laboratories were relocated into a new facility designed to enhance our ability to provide customer focussed product solutions.*
- *Huntsman submitted a comprehensive Safety Report as required under NSW Major Hazard Facility legislative requirements.*

Huntsman is certified to a number of international standards - ISO 9001 (International Standard for Quality Systems), ISO/TS 16949 (International Standard for Quality Systems - Automotive Products) and ISO14001 (International Standard for Environment Management Systems)

Orica is the global leader in explosives, mining chemicals and mining services and Australia's largest chemical company. The company has operated for nearly 140 years and employs more than 15,000 people in 50 countries. Orica's core strategy is to be the global leader in the provision of high service, critical consumables to the mining, construction and infrastructure markets, leveraged to long-term increases in production and development volumes.

Orica's traditions of leadership, innovation, quality and safety are shared by its 15,000 people located in around 50 countries across six continents,

Orica continues to have a presence on the BIP through its manufacture of ChlorAlkali products, operation of the Groundwater Treatment Plant and management of environmental legacy programs.

ChlorAlkali Manufacturing

ChlorAlkali Plant at dusk

Orica has been producing chlorine for over 60 years at the Botany Industrial Park. Since 2002 Orica has been successfully operating its new 'gas-only' chlorine plant based on modern membrane technology. The new plant has resulted in significant improvements in safety, environmental performance and energy efficiency through the implementation of best practice design and technology.

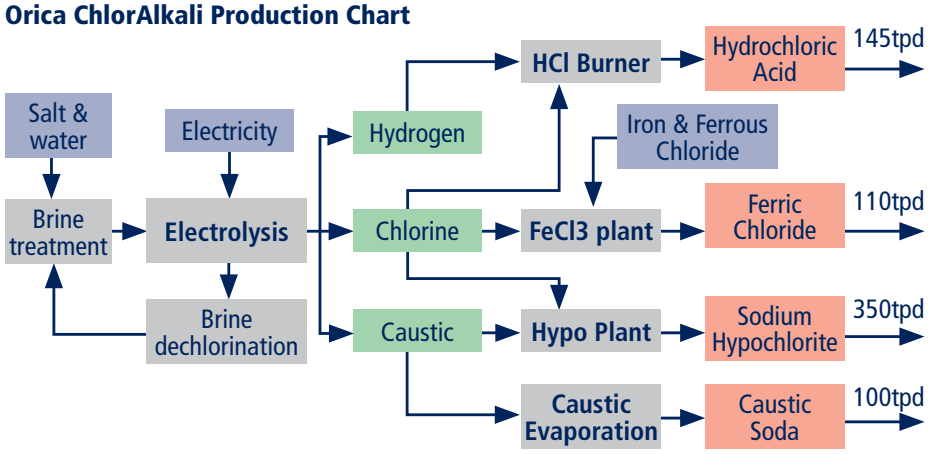
The site operates continuously, 24 hours a day and employs approximately 40 people. Salt (from South Australia), electricity and water are used in the plant. Chlorine, caustic soda, hydrochloric acid, sodium hypochlorite (liquid pool chlorine) and ferric chloride are produced. These products are sold to a range of industries such as:

- *water treatment and swimming pools*
- *pulp and paper*
- *mining*
- *soap and detergent*
- *steel*
- *food, beverage and dairy*

Some significant achievements for the plant in 2011-12 included:

- *an injury free year*
- *reliable plant operations*
- *completion of MHF compliance activities and submission of Safety Report*

Orica ChlorAlkali Production Chart



Orica's Commitment to Solving Environmental Legacy Issues

During former operations at the Botany site, contamination of soil and groundwater occurred as a result of manufacturing activities, when environmental considerations, regulations, and understanding were not of today's standards. Orica acknowledges that it contributed to this contamination and is committed to implementing a range of remediation projects that address land and groundwater contamination, and to destroying waste stored at its Botany site.

Orica continues a number of cleanup projects, known as the *Botany Transformation Projects*, whilst safely managing legacy matters in close consultation with the local community, agencies, government and other stakeholders.

In April 2012, Orica reached a significant milestone on the Car Park Waste Encapsulation Remediation Project with the successful completion of soil treatment. Demobilisation work is expected to be completed by August 2012.

Air quality monitoring during the treatment of contaminated soil for the Car Park Waste Encapsulation Remediation Project

Orica continues to treat groundwater at the Groundwater Treatment Plant (GTP), as well as undertaking extensive monitoring, to ensure risks to human health and the environment are managed at acceptable levels.

Work is underway on the Southlands Remediation and Development Project. Orica's Southlands site is located to the west of the BIP in the suburb of Banksmeadow. Stage 1 of this project has been approved by the NSW Department of Planning and Infrastructure and involves subdivision and development for warehousing purposes.

Orica has conducted a thorough investigation into options for the remediation of mercury contaminated soil at the site of the Former ChlorAlkali Plant site and will progress plans in consultation with the EPA and the local community. Soil contaminated with mercury needs to be managed to reduce potential risks to onsite workers and the environment to the extent practicable and to reduce ongoing impacts to groundwater to the extent practicable.

Orica stores its hexachlorbenzene (HCB) waste at the BIP in accordance with licensing requirements to ensure that there are no unacceptable risks to human health and the environment. Orica remains committed to finding a solution for destruction of the HCB waste.

Community consultation and support

There are two community groups: the Botany Groundwater Community Liaison Committee (CLC); and, the HCB Community Participation and Review Committee (CPRC) that meet regularly to discuss Orica's remediation projects at Botany.

Each community group has access to independent technical advice from experts in fields relevant to the various remediation projects.

Orica regularly hosts site tours for school, community and industry groups

Orica greatly values the commitment and contribution that local residents, environment groups, businesses and the three levels of government make to these committees. Orica encourages feedback on the various projects at Botany, and seeks to meet the needs of stakeholders as it works to address legacies of the past. Everyone is welcome to attend the CLC and CPRC meetings, as well as the BIP CCC meetings.

Orica is committed to the following community support programs:

- *Ronnie Harding Award: an annual award provided to environmental studies students at the University of NSW.*
- *Guided bus tours of the BIP: these tours allow members of the public to see the BIP, and to learn more about the Botany Transformation Projects.*
- *Local sponsorships: During 2012 Orica is delighted to be sponsoring environmental initiatives at four local primary schools and to be continuing support for Randwick Botany Little Athletics.*
- *L'Estrange Park, Mascot: Orica has funded $150,000 to the City of Botany Bay Council to contribute to the development a new playground at this park.*
- *Botany Bay National Park: during 2012 work will be completed on flora surveys and construction of a coastal walking track at the Park, for which Orica has funded $140,000.*

Orica provides monthly updates in the *Southern Courier* and quarterly updates in the *St George* and *Sutherland Shire Leader* newspapers. It distributes regular publications of CLC and CPRC newsletters in the local area and holds workshops to share information and seek community input on the various cleanup projects at Botany.

Details of the Orica community consultation programs and further information about the Botany Transformation Projects are available on **www.oricabotanytransformation.com** or via the BIP community complaints and enquiries and feedback line **1800 025 138**.

Your feedback will improve our community consultation approach

Orica invites you to share your ideas on how we can improve the way we share information and seek your feedback.

The Orica funded walking track at Botany Bay Kamay National Park