

# ORIENTAL UNION CHEMICAL CORPORATION

# The 2014 Corporate Social Responsibility Report

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Social Responsibility Report



## Editing Principle

Welcome to the Corporate Social Responsibility (CSR) Report of the Oriental Union Chemical Corporation (stock code: 1710, hereinafter referred to as the "OUCC") published for the first time in 2015. We would like all the stakeholders that care about us to understand the challenges of sustainable development faced by the chemical industry, as well as our efforts and persistence in response to the development of green chemistry and the realization of sustainable action in the chemical industry through the CSR report.

This CSR Report is issued in both Chinese and English versions. You are welcome to download them from our official website at: <http://www.oucc.com.tw/>

## Reporting Period and Organizational Boundaries

The CSR Report discloses the CSR management policy, key issues, responses, and action performance of the OUCC in 2014 (Jan 1 to Dec 31). Some issues that go back to 2012 or 2013 have been included to ensure a comprehensive report of project performance and outcome.

The content and data of this CSR report includes only the performance data of the OUCC Headquarters and the Lin Yuan Plant.

Frequency of publication: Annual.

- Date of publication: August 2015
- Date of next publication: June 2016

## Writing Reference and Guarantee

This CSR Report is prepared in accordance with the "Global Reporting Initiative (GRI) G4 version guidelines and AA1000 (2008) standards; also, verified by SGS-Taiwan in conformity with the GRI G4 Core Option Standards and AA1000 AS Type I intermediate assurance level.

The CSR Report relevant information and data are composed and provided by the OUCC Taipei Headquarters and Lin Yuan Plant to ensure it meets the needs of the CSR report information. The relevant information, data, review, and data verification are documented, verified, and approved by each department head. The final issues and information are reviewed and authorized by the directors and top management.





## Relevant Information

Unless otherwise stated, the New Taiwan Dollar is the currency used in the CSR Report. If you have any comments on the “Oriental Union Chemical Corporation 2014 Corporate Social Responsibility Report,” you are invited to forward your valuable comments and advice.

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# About Us



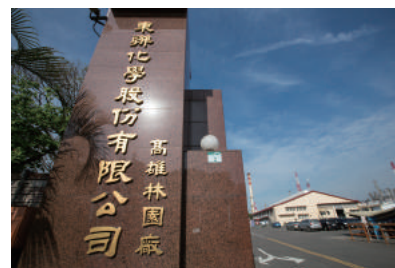
O UCC was founded in 1975 and traded on the Taiwan Stock Exchange in 1987 with a capital stock of NT\$8.85 billion. The OUCC is engaged in professional petrochemical business within the Far Eastern Group. The OUCC has produced ethylene oxide (EO) and ethylene glycol (EG) related products for more than three decades and has plants in Kaohsiung Lin Yuan and China Yangzhou. The Lin Yuan Plant has an annual output of 360,000 tons of ethylene oxide (EO) and 300,000 tons of ethylene glycol (EG). The invested production plant in Yangzhou has an annual output of 40,000 tons of ethanolamine (EA) and 60,000 tons of ethylene oxide derivative (EOD) specialty chemicals.

The OUCC has developed a range of short-, mid-, and long-term strategies in response to risk and increasing volatility of the global petrochemical market. In addition to production expansion plans initiated in Taiwan and China, the OUCC is actively seeking to invest in less-expensive raw material supply sources, to deepen our development in this industry and enhance our competitive advantage in the petrochemical industry. The OUCC continues to develop innovative technologies and a range of value-added specialty chemicals and materials. We are exploring new markets and new products, and minimizing the impact of bulk petrochemical material fluctuations on our operations so we may continue to grow in the face of fierce global competition. The OUCC has been undergoing restructuring to gradually enter the specialty chemicals field with a more diversified business operation.

We value the importance of industrial safety, health, and environmental protection and substantiate management system compliance and efficient on the job training. In terms of industrial safety, the OUCC has continued implementation of the "OHSAS-18001 Occupational Safety Management System" and has completed the various safety requirements. There were no major accidents in 2014. The Kaohsiung Lin Yuan Plant was awarded a "Hazard-Free One Million Working Hours Record" certificate by the Occupational Safety and Health Administration of the Ministry of Labor.

We have established a good healthy working environment and were awarded "Health Promotion Label" healthy workplace certification by the Health Promotion Administration of the Ministry of Health and Welfare. In addition to continuing with the "ISO-14001 Environmental Management System," the company has established a pollution prevention system improvement plan to enhance the effectiveness of pollution prevention and control, and received an "Environmental Sustainability Award" commendation from the SGS.

The OUCC has been gradually becoming a diversified and sustainable company handling both traditional and specialty chemicals, and high-tech chemical materials. We are also constantly creating new value for our customers, shareholders, and employees.



## The Chronicles of the OUCC

1975

The company was authorized for incorporation with a share capital of NT\$569 million. The shareholders included the Central Investment Co Ltd, the National Development Fund, the Executive Yuan, the Far Eastern Textile Co Ltd, the Union Carbide Corporation, and the China Development Trust Incorporated.

1987

Stock approved for sale.

1978

Ethylene glycol plant construction completed.

1982

Union Carbide Corporation withdrew from the OUCC. The Yonglian Gas Company that had been invested in by the Union Carbide Corporation, Central Investment Co Ltd, and CPC Corporation, Taiwan were merged with the OUCC and the capital stock was increased to NT\$1,494 million.

2005

Completed the multi-functional pilot plant that was designed and constructed by the OUCC as a good foundation for future technology and the design and development of new products and processes as well as new product pilot trial runs.

2008

1. Completed Ethanolamine Plant II with an annual production capacity of 40,000 tons. This increased the total annual ethanolamine production capacity to 80,000 tons.
2. Completed the Ethylene carbonate plant de-bottleneck project to increase the annual production capacity to 60,000 tons.
3. The Investment Commission MOEA approved OUCC (Bermuda) Holding Ltd investment and establishment of the Oriental Petrochemical (Yangzhou) Co Ltd, mainly engaged in the production and sales of ethanolamine, ethylene carbonate, fatty alcohol ethoxylates, polyethylene glycol, and polyethylene glycol monomethyl ether.

2010

Purchased Pacific Petrochemical Holding Ltd. (PPL) stock shares from Yuan Ding Investment Corp and Core Pacific Capital Ltd. In addition, sold PETH shareholding to Far Eastern New Century Corp. The OUCC holds 100% of PPL shareholding after the transaction was completed and 39% indirect shareholding of Oriental Petrochemical (Shanghai).

2009

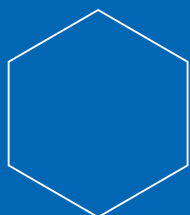
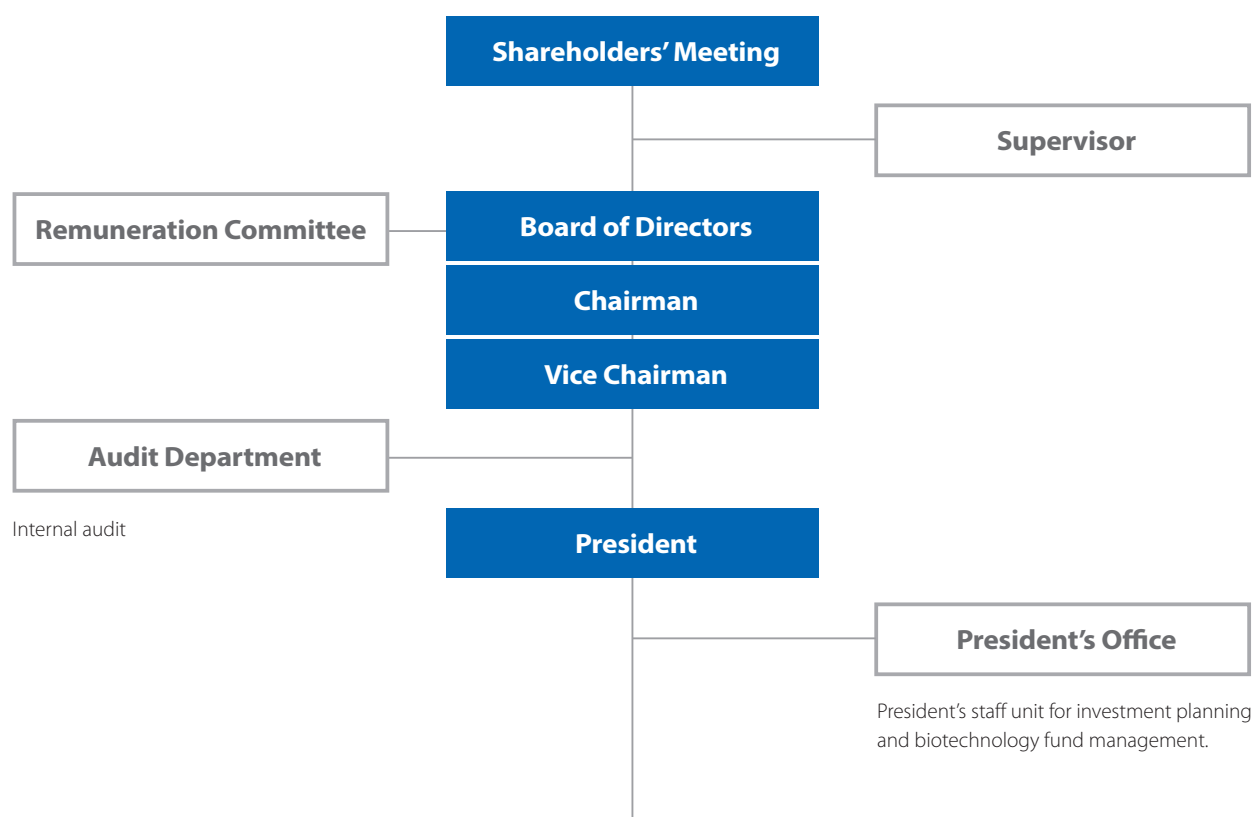
Won the "National Industrial Zone Safety Partnership Excellence Award - Premium Business Unit" medal from the Council of Labor Affairs, Executive Yuan in December.

2011

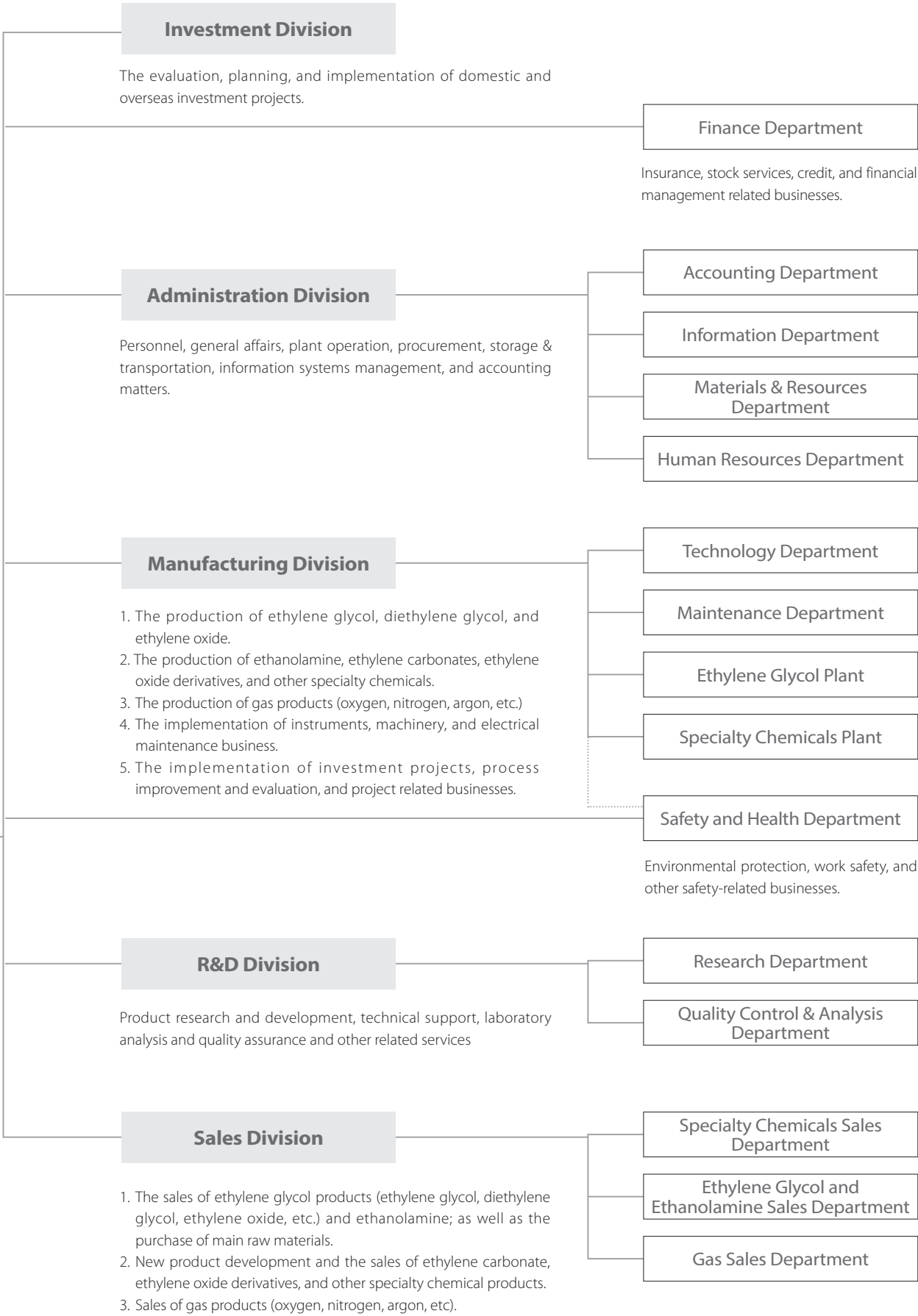
Oriental Petrochemical (Yangzhou) Co Ltd constructed and put the 40,000-ton ethanolamine plant into operation.  
Completed the construction of the ethylene oxide derivatives plant in Lin Yuan with an annual capacity of 40,000 tons.

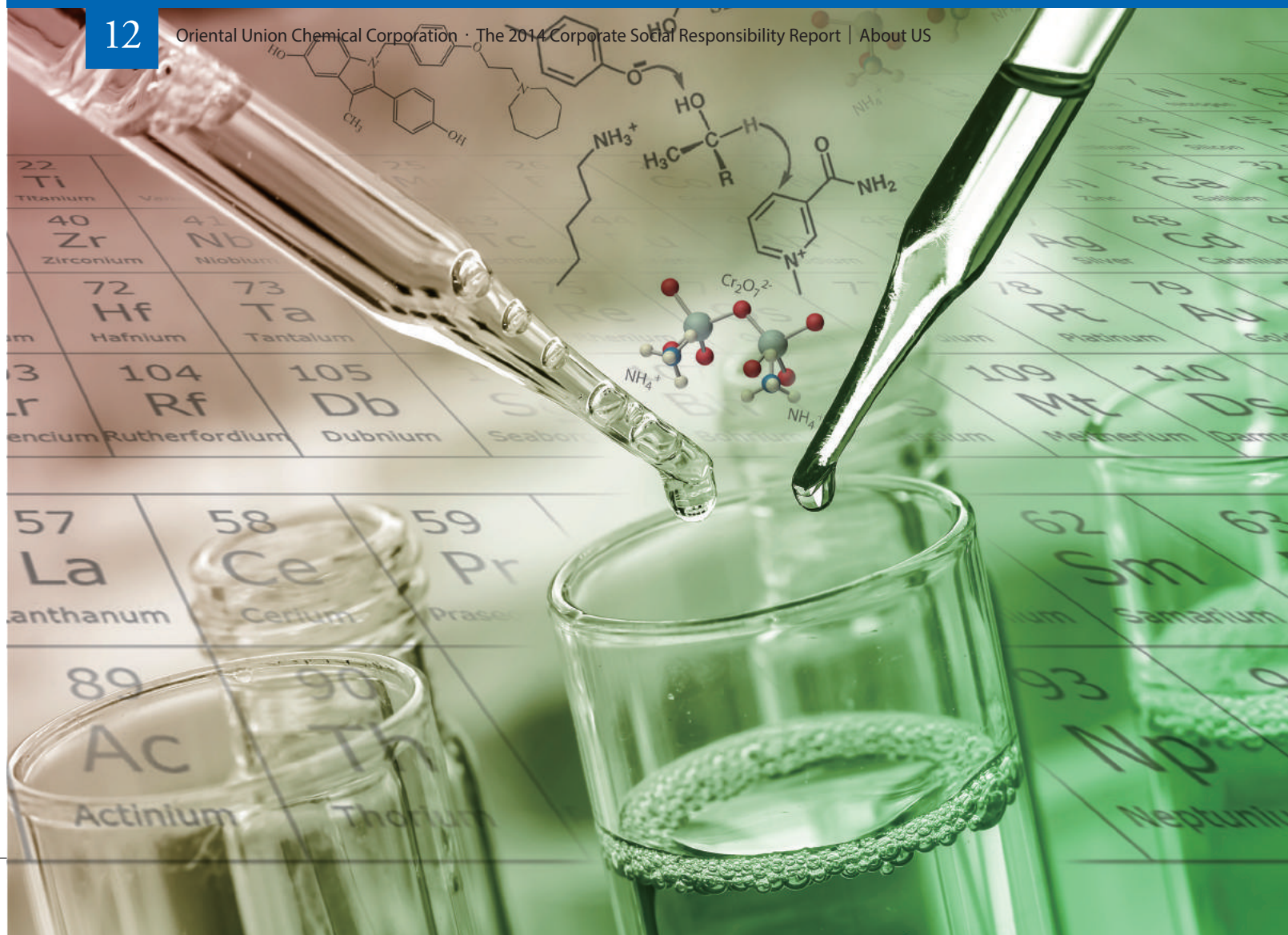


## Organizational Structure and Scale



- Head Office: 13F, No. 101, Fuhsing N Road, Taipei City
- Telephone: (02) 2719-3333
- Factory: No. 3-5, Industrial 3rd Road, Linyuan District, Kaohsiung City
- Telephone: (07) 641-3101
- Number of employees: 388 persons
- Manufacturing location: Kaohsiung & Yangzhou





## Products

Ethylene glycol is the main product of the OUCC. The Ethylene Glycol Plant was built in 1978 using US Union Carbide process technology (Dow Chemical merged with Union Carbide in 2001) applied for an annual production capacity of 300,000 tons after completing the de-bottleneck project. The product is supplied mainly to domestic polyester industry manufacturers with some being exported to China, Southeast Asia, New Zealand, and Australia.

Due to the rapid expansion of polyester production capacity in China, local ethylene glycol production is insufficient to meet the needs of the downstream industry and millions of tons of ethylene glycol are imported

annually. The OUCC invested in the Far Eastern Union Petrochemical (Yangzhou) Ltd in 2012 and began the construction of an ethylene glycol plant with a production capacity of 500,000 tons and an ethylene oxide plant with a production capacity of 400,000 tons that will be completed and ready for production in the second half of 2015. The OUCC owns 50% shareholding of that company. The ethylene oxide produced by the Far Eastern Union Petrochemical (Yangzhou) Ltd can be used as the raw material for ethylene glycol and can be supplied to the Oriental Petrochemical (Yangzhou) as the raw material for specialty chemicals to achieve the synergy of lower raw material cost and vertical integration.

## Industry Supply Chain

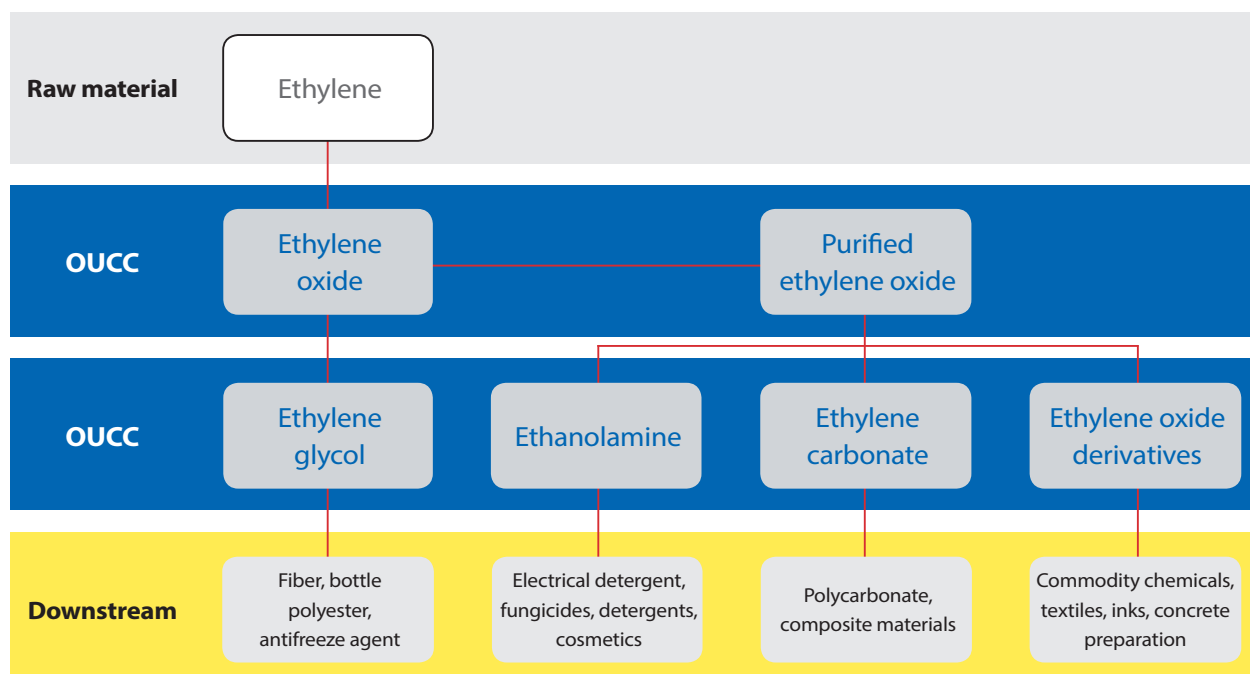
Ethylene glycol is the main product of the OUCC. The intended use of ethylene glycol is for polyester products, including polyester fiber and bottle polyester, cut film, etc.

Ethanolamine is supplied to the downstream electrical detergent, resins, inks, textiles, and cement industry. It is also exported to Asia-Pacific, Europe, and America. The domestic ethanolamine plant is able to provide a flexible and rapid delivery service to the local electrical detergent manufacturers.

Ethylene carbonate is mainly used to produce polyethylene carbonate for the production of optical discs and other composite plastic materials.

Ethylene oxide derivative products are mainly supplied to downstream industries, for use in detergents, electronic chemicals, synthetic resins, textile auxiliaries and cement, and related domestic industries. The domestic industries are closely related with economic growth. In recent years in Asia, particularly China and Southeast Asian emerging markets, the demand for ethylene oxide derivative products continues to grow along with the increase of domestic consumption.

Most of the gas produced is used by the internal ethylene glycol, ethanolamine, and ethylene carbonate plants. Oxygen and nitrogen are also supplied to customers in the Lin Yuan and Da Far industrial zones. The remaining liquid products are mainly supplied to the domestic electronics, petrochemicals, medical, food, steel, and metal processing market.



\* The Ethylene glycol production process: After mixing Ethylene with oxygen, ethylene oxide is produced by silver catalysis. Crude ethylene oxide is the starting point for high purity ethylene glycol, diethylene glycol, and triethylene glycol. Ethylene oxide is also distilled to give high purified ethylene oxide to be used for the production of ethanolamine / ethylene carbonate / ethylene oxide derivatives.

Type	Item	Product application
Ethylene glycol (EG)	Monoethylene glycol (MEG)	Raw material for polyester fiber, antifreeze, desiccants, engineering plastics, PET bottles and brake fluid.
	Diethylene glycol (DEG)	Raw material for dehumidifying agents, lubricants, leveling agents, solvents, grinding aid, and unsaturated polyols.
	Triethylene glycol (TEG)	Dehumidifying agents, solvents, and polyols.
	Ethylene oxide (EO)	Raw material for ethylene glycols, glycol ethers, ethyl ethers, nonionic surfactants, and as a disinfectant.
Ethanolamine (EA)	Monoethanolamine (MEA)	Household and industrial cleaning agents, textile auxiliaries, acid gas absorption, pharmaceutical intermediates, electrical detergents, water treatment, resin additives, metal surface treatment, and wood preservation treatment.
	Diethanolamine (DEA)	Shampoo and bathing products, cosmetics, household and industrial cleaners, textile auxiliaries, acid gas absorption, herbicides, PU bridging agent, lubricant or metal surface treatment, resin additives, and fluorescent whitening.
	Triethanolamine (TEA)	Shampoo and bathing products, cosmetics, household and industrial cleaners, textile auxiliaries, cement and ready-mixed concrete additives, lubricants and metal surface treatment, resin additives, PU foam catalyst, and fluorescent whitening.
Ethylene oxide derivatives	Fatty alcohol ethoxylates (AEO)	AEO are non-ionic surfactants that can be used in: <ul style="list-style-type: none"> <li>- Producing anionic surfactant AES as the raw material for shampoo</li> <li>- As a dispersing and leveling agent in the Textile and dye industry</li> <li>- In metal surface cleaners</li> <li>- For detergent formulations</li> <li>- Wetting agents in the Leather industry</li> <li>- As an antistatic agent for synthetic fiber treatment</li> </ul>
	Polyethylene glycol (PEG)	PEG is an extremely versatile polyether polymer that can be used: <ul style="list-style-type: none"> <li>- As a wetting, dispersing and leveling, and emulsifying agent in the Textile industry</li> <li>- As a softener in the Paper industry</li> <li>- In water-soluble ointments and suppository bases</li> <li>- In lubricants and antistatic agents for fiber processing</li> <li>- To increase solubility and lubrication in the resin and dye products.</li> </ul>
	Polyethylene glycol monomethyl ether (MPEG)	Chemical structure of MPEG: $\text{CH}_3-(\text{OCH}_2\text{CH}_2)_n\text{-OH}$ This product and acrylic acid are combined to produce MPEG acrylate that is the main raw material for the production of polycarboxylate, an efficient concrete water reducer.
	Polyethylene glycol tallow ether amine (TA)	TA are non-ionic in alkaline and neutral medium and cationic in acidic media with excellent emulsifying and leveling properties widely used as: <ul style="list-style-type: none"> <li>- Textile Auxiliaries</li> <li>- Pesticide emulsifiers</li> <li>- Metal corrosion inhibitors</li> <li>- Lubricants</li> </ul>
	Ethoxylated trimethylolpropane (TM)	TM is a polyol alkoxy containing three primary alcohol functional groups that is a colorless and transparent liquid at room temperature and is often used in: <ul style="list-style-type: none"> <li>- PU crosslinking agents</li> <li>- UV curable coatings reactive monomer precursors</li> <li>- Aqueous polymer compositions</li> <li>- Synthetic Lubricants</li> <li>- Polyester alkyd resin films</li> <li>- Chemical processes</li> </ul>



Type	Item	Product application
Ethylene Carbonate (EC)	Ethylene Carbonate (EC)	EC is a widely used basic chemical that is mainly used: <ul style="list-style-type: none"> <li>- In polymer synthesis: non-phosgene polycarbonate; polyurethanes; unsaturated polyester; and engineering plastics</li> <li>- In pharmaceutical intermediate synthesis</li> <li>- As a solvent: in acid gas absorption; as a lithium battery electrolyte; as an electrical detergent; in cosmetics; in cleaning agents; and as a degreaser.</li> </ul>
	Oxygen	For use in the petrochemical industry, metal processing, industrial welding and cutting, waste water treatment, incinerators, hospitals, and aquaculture.
Gas Products	Nitrogen	For use in the refining industry, electronics and semiconductor industry, plastics, food refrigeration and packaging, the chemical industry, and metal heat treatment.
	Argon	For use in welding, the space industry, the electronics and semiconductor industry, metal and alloy manufacturing, etc.

## Research and Innovation

In the face of oil price fluctuations and competition from new ethylene glycol plants in China and the Middle East, the OUCC is undergoing transformation after extensive research and development that has accumulated enough intellectual property and competitiveness to enter the specialty and precision chemical fields.

We have a very highly qualified R&D team and to strengthen our research and development capabilities, a "Research Group" was formed in 2001 to promote the development of product transformation. The formal R&D Division was divided into two units (R&D and Quality Control Analysis) with six teams in 2014. In addition to the expansion of core business applications, new products in several different areas have been developed in line with market changes and future chemical material demand. Current research and development areas include:

New and innovative ethylene oxide downstream value-added products and technology development:



polyethylene glycol derivatives, polyethylene glycol monomethyl ether, and fatty alcohol derivatives.

1. Specialty chemicals / surfactants and polyethylene glycol
2. Other specialty chemicals / agricultural chemicals, and specialty additive materials
3. Biodegradable polymers.

## R&D Direction

Product Category	R&D Subject	Contents
Specialty chemicals	Surfactant	Downstream applications of EO derivatives for the development of fine chemicals, including nonionic surfactants, cement water-reducing agent, various intermediates for further dyeing, and consumable chemicals.
Specialty chemicals	Purified MPEG/PEG	Used in polyurethane PU processing. This polymer material is widely used in adhesives, coatings, low-speed tires, washers, and for car mats. Polyurethane is also used in the manufacture of a variety of foams and plastic sponges for domestic use.
EO Directives	Cement water-reducing agent	Poly-carboxylic acid is a cement water-reducing agent and helps to improve the strength of the concrete. Also the admixture will reduce cement consumption while workability and strength maintained. Current research is into the development of Poly-carboxylic acid as a super water-reducing agent.
Resins, coatings	Ultraviolet curing resin	UV and aqueous paint and resin development is a response to the need for global environmental protection and carbon emission reduction.
BIO	Ethanol to ethylene	Ethylene, which is used in a wide range of environmentally friendly processes, is produced in the Ethanol to ethylene process (ETE). It is also used to produce other chemical products, such as, ethylene oxide, ethylene glycol, PET, and so on.

The OUCC has been focusing on “Green chemistry” and much innovative research and development has been done in this direction. An R&D team has been formed with the Far Eastern Group R&D Center to conduct the development of biomass raw materials. A Bio MEG plant has been planned where non-food-source agricultural cellulose waste such as wheat and rice straw will form the raw material for ethanol production. The ethanol will be dehydrated to ethylene for the production of green ethylene glycol. This will be the starting point for the downstream manufacture of PET bottles and

other environment friendly products. The OUCC shall be responsible for the dehydration of ethanol to ethylene.

In prospect, the OUCC will continue research and development into value-added purified chemicals as well as specialty chemicals and technology transfer, and also look for opportunities for cooperation with other well known companies. The OUCC intends to become a diversified company engaging in traditional and specialty chemicals, as well as high-tech chemical materials.

	Unit	2012	2013	2014
R&D amount	Million (NT\$)	145	134	<b>133</b>
Total annual revenue	Million (NT\$)	12,272	13,729	<b>12,421</b>
Ratio	%	1.1	1.0	<b>1.0</b>



### NMR analysis technology to reduce waste solvents

The OUCC has been using nuclear magnetic resonance (NMR) analysis since 2010 to identify EOD related product structure, as well as to analyze the molecular weight and impurities in AEO, MPEG, and PEG, etc. This ensures rapid and precise production and quality control of the products. But the most important of all, it benefits the environment massively by reducing the amount of waste solvent.

What's mostly adopted currently to analyze the qualities of organic compounds are the wet procedures such as titration, extraction, or even chromatography. In addition to the sample which might be anything between 0.1g and 30g, large volumes of solvent (MeOH, ACN, etc.) 30~50ml at a time are used throughout the analysis.

Although these conventional analytical methods can provide more sensitive detection and better accuracy, the large amount of waste solvents generated may affect the environment. On the contrary, NMR analysis requires very small samples (10~30mg), and the very little solvent generated has a minimal effect on the environment.

## Respect Intellectual Property Rights

We value the protection of technology and intellectual property rights (IPR). With regard to the research, development as well as purchase of the innovative technology, the "Procedure for Outsourcing Processing Technology" is formulated. Before it is kicked off, a new project will be initiated and a project leader assigned. A first edition of the formal technical data and relevant support will be provided to the project team by the outsourced supplier, then be allocated by the project leader to the production, technical, maintenance and other units, to complete the initial distribution signing process.

The project leader then convenes a project kickoff meeting, execute the project, and has the outsourced manufacturing process technical data distributed to production, technology (processing and engineering groups), maintenance (machinery, electrical engineering and instrument groups), and other relevant units. The contract will include protection clauses for IPR, patents, copyrights and confidentiality to ensure the integrity of technology rights.

The OUCC is committed relentlessly to investment in R&D and innovation, applications for investment tax credits with the approval of the government are filed annually, as an endeavor to the establishment of the new era of green chemistry. In addition, the OUCC also cooperates with other relevant R&D organizations and invests in R&D equipment.

Type	Grant Plan	Description	Funded by the OUCC
R&D (work with ITRI)	Polyether diamine processing technology assessment	Polyether diamine new product development. Current domestic demand is about 2,200-2,300 tons, total of domestic and overseas demand is about 8,500 tons	NT\$ 2 million over 2 years
Equipment	PO & ETE pilot equipment	Development of the self-owned technology of ethylene production by dehydration of Propylene oxide and ethanol	NT\$ 5.96 million
	ETE_ gas chromatography	Distribution analysis of the gasified/liquified ethylene and by-product after ethanol dehydration	NT\$ 2.5 million
	Nitrogen adsorption	Utilization of the gas adsorption method (nitrogen or argon) to measure the surface area of powder or block material and the pore distribution	NT\$ 3.8 million
	Particle size analyzer	Measurement of particle and its size	NT\$ 1.6 million
	X-ray Diffraction instrument	Analysis of the crystal structure of solids	NT\$ 3.2 million
Industry-academy cooperation (Yuan Ze University)	Catalytic activity tests and research of ethanol to ethylene reaction	Screening commercial catalysts for ethanol dehydration to ethylene and a study of the reaction conditions	NT\$ 340,000



### Environmental characteristics product - Ethylene carbonate

Ethylene carbonate (EC) is produced by a reaction between ethylene oxide (EO) and  $\text{CO}_2$ . With the recycled  $\text{CO}_2$  as feedstock, it reduces effectively the greenhouse gas emission and proves EC is produced with a green process.



### Environmental characteristics product - Bio ethanol

Currently most ethanol is produced from food crops such as corn, grain, sorghum, and so on. A general shortage of these food crops around the world has resulted in a rise in the production costs of biomass alcohol. The result is that attention has been turned towards the production of ethanol from agricultural cellulose waste such as rice straw and bagasse. Traditionally, such agricultural waste is incinerated or buried, but if a process for the development of cellulosic ethanol can be perfected, this will solve one of our agricultural problems.

Cellulosic alcohol can be dehydrated into ethylene and then used to make biomass MEG. Once it is developed successfully, the raw material for the production of EG can come from crude oil or agricultural waste that will help reduce our dependence on crude oil. Furthermore, biomass MEG production does not increase  $\text{CO}_2$  emission and is a green product.

## Industry Sustainable Thinking

The OUCC has been persistent and flexible in business operations. We pursue a diversified product strategy and insist on safety management. Reduction of the discharge of harmful substances and compliance with regulations, standards, and specifications are specific OUCC production goals.

To achieve sustainable development and avoid all disaster-related incidents that cause public concern over chemical safety, the OUCC has adopted a stable safe and environmentally friendly approach to product development. The effect of the product on the aspects of health, safety and the environment has been taken into account and reviewed from the very start of the life cycle, aiming to reduce all possible impact on the environment resulted from the product or production process. Our strategies include:

- All the technology currently adopted in production process by OUCC are fully developed, and the outsourced technology meet the regulation.
- Encourage our employees to think from the viewpoint of environmental protection, reduce production of harmful substances, and realize the innovation in environmental safety. All technology to be developed in the future must meet the requirements of the environmental protection unit.
- Any release of the toxic substances into the environment during production will be avoided as much as possible at the product development & design phase, to ensure no residue on the product or contamination of the environment.
- Upon customer's request, the newly developed and manufactured products will be tested and verified by a public institute (such as SGS) to ensure they comply with all the relevant environmental regulations or specifications.

## Financial Performance

Ethylene glycol (EG) is the main product of OUCC. The price of EG in Asia declined by 11% in 2014 compared to 2013, due to lower demand of downstream industry in the first half, and a sharp decline of oil price in the second half of 2014. The raw material ethylene was also in short supply because of the shutdown of some ethylene crackers in Asia for annual maintenance. This caused a dramatic rise in the spot price of ethylene in Asia where the average rose by 9% over that of 2013 squeezing the company's EG profitability.

The revenue and profitability of gas products had also declined slightly due to market oversupply and fierce competition, but a worst case scenario was avoided by production cost control and properly managed customer relationships.

The market situation for Ethanolamine remained in a slump due to the poor downstream product market and international over capacity. The Ethoxylates business had started profiting as partnerships with international chemicals manufacturers had been maintained and customers and markets been actively developing.

The 2014 OUCC revenues amounted to NT\$12.4 billion, a decline of 10% over 2013; net income before tax amounted to NT\$95.1 million and net income amounted to NT\$115.9 million, a respective decline of 94% and 91% over 2013. With EPS at NT\$0.13, a distributable dividend of NT\$1.0 per share was resolved at the 12th Board meeting of the 13th term.

	Unit	2012	2013	2014
Operating income	NT\$ Thousand	12,271,756	13,729,130	<b>12,420,607</b>
Operating cost	NT\$ Thousand	9,997,035	11,314,683	<b>11,113,620</b>
Operating expense	NT\$ Thousand	529,419	565,176	<b>589,540</b>
Net operating profit	NT\$ Thousand	1,745,302	1,849,271	<b>717,447</b>
Non-operating income and (expense)	NT\$ Thousand	(457,942)	(310,504)	<b>(622,280)</b>
Net income before tax	NT\$ Thousand	1,287,360	1,538,767	<b>95,167</b>
Income tax expense (profit)	NT\$ Thousand	139,966	273,471	<b>(20,715)</b>
Net income	NT\$ Thousand	1,147,394	1,265,296	<b>115,882</b>
Retained earnings (note)	NT\$ Thousand	5,249,100	5,448,946	<b>4,666,918</b>
Staff salaries and benefits	NT\$ Thousand	441,325	463,971	<b>447,483</b>
Tax paid to government	NT\$ Thousand	222,661	314,503	<b>33,229</b>
Dividend paid to shareholders (annual earnings)	NT\$ Thousand	1,062,844	1,062,844	<b>885,703</b>
Community Investment / Donation expense	NT\$ Thousand	1,629	1,661	<b>3,821</b>

Note: The net balance of the dividend paid to the shareholders in the following year.



## Open and Transparent Communication Channel

The OUCC complies with the information disclosure regulations by publishing the financial, business, and corporate governance-related information on the company website. We also communicate with stakeholders through roadshow, shareholders' meeting, investor relations, etc. The OUCC has diversified communication channels:

1. The suggestions or questions raised by the shareholders, in addition to being dealt with by the President's Office, can also receive attention from the spokesman and deputy spokesman at the "Oriental Securities Corporation" that provides stock services to the OUCC.
2. All the relevant information is on the MOPS and <http://www.oucc.com.tw> in accordance with government provisions and regulations.
3. Investors meetings are held from time to time and the results are disclosed in accordance with the provisions.

# Sustainable Commitment



## Address by the President

I am pleased to introduce the first issue of the OUCC CSR Report. It is a milestone of sustainable management of the Company. While pursuing outstanding performance, steady corporate governance and safe environment, we never forget to fulfill the responsibility of a corporate citizen.

Our CSR report has been based on five sustainable themes: "process safety management, transportation safety, environmental health and safety, contingency mechanisms, and energy and climate change" which has listed out the the substantial issues of the Company such as quality and safety, customer's satisfaction, public safety and environmental protection.

I believe that the very idea of sustainable development drives business to "do the right thing and do the thing right." In view of the importance of the chemical industry to livelihood and the economy, doing the right thing will contribute to the attainment of three sustainable bottom lines - environment, society, and an economy win-win situation.

The OUCC continues to maintain strict operating procedures by the introduction of standards and systems that meet and exceed the regulations and requirements. We provide our customers with the best quality and assure them of the most advanced manufacturing technology. We also take care to safeguard the health of our employees as well as product quality and safety and create sustainable value for all stakeholders.

These goals can be achieved only from the concerted efforts of our staff and supply chain partners. We will continue to build a friendly, healthy, and safe workplace, and extend communication and interaction to our supply chain partners. We will also improve the management system by eliciting the voluntary commitment to responsibility and care to guarantee the safety and health of our employees and supply chain partners.

We are proud of our business concept "sincerity, diligence, thrift, prudent" and business culture. We listen to stakeholders, aim to meet customer demand, and strive to promote the widest range of sustainable management actions. In prospect, the corporation will move towards becoming a diversified enterprise engaging in traditional and fine chemicals, and high-tech chemical materials to create sustainable value for customers, shareholders, employees, and the general public.

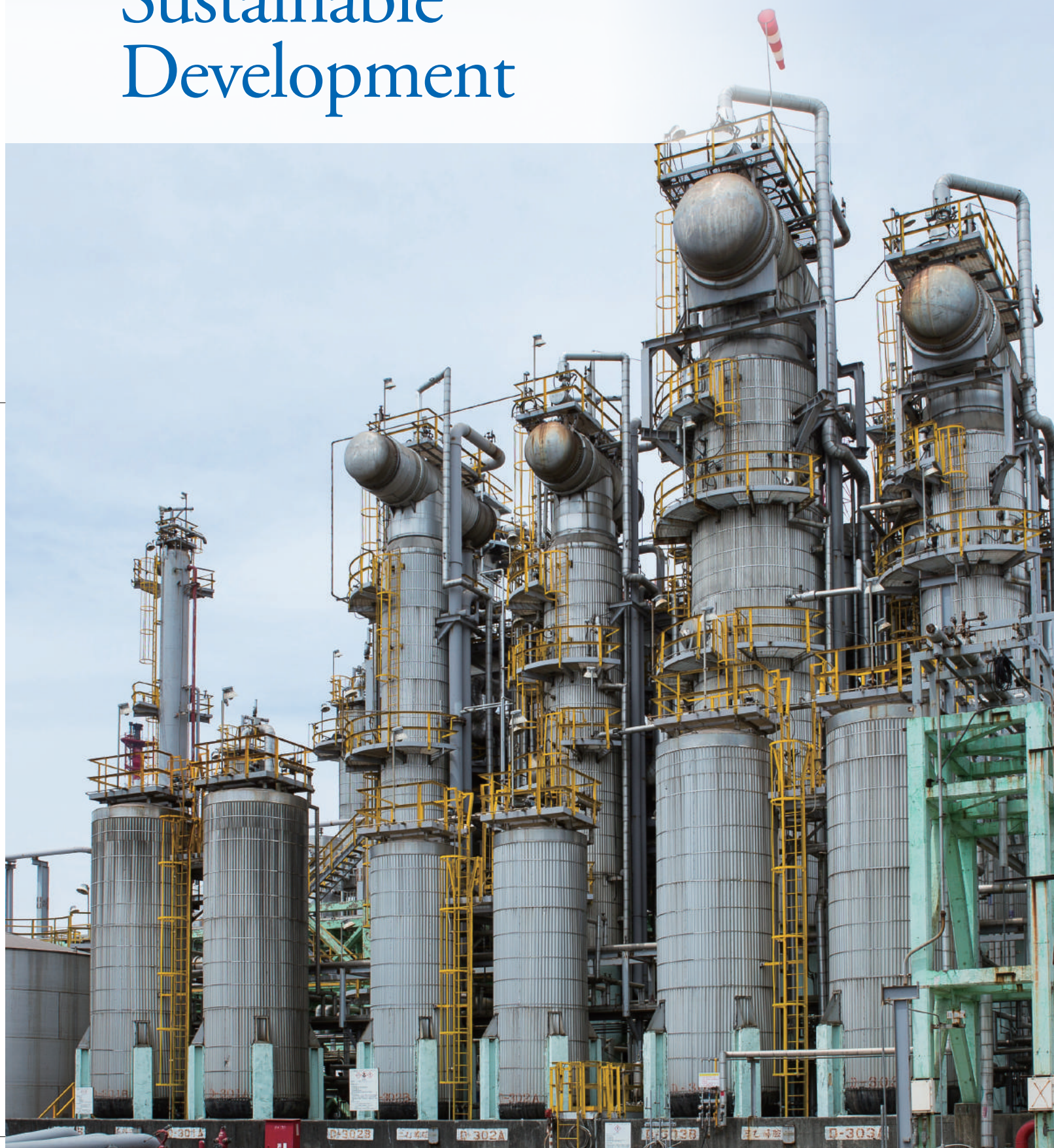
2014 CSR Report has been another start of OUCC for moving towards sustainable development. We understand that there is much to learn and improvements to make on this journey. We will enhance internal management, external disclosure and communication. Please continue to give us your advice and guidance so we may work with all our stakeholders to contribute to sustainable development of the society.

Oriental Union Chemical Corporation

*Tsai, Hsi-Chin*  
President



# Sustainable Development



Enterprises shoulder the expectations and concerns of stakeholders throughout the journey towards sustainable development, this includes securing the confidence of shareholders in a company that has a reasonable return on their investment. It is also essential to create a healthy, safe, and self-challenging work environment so that employees will have job stability, and to have the suppliers become our partners in the creation of social value.

Our first CSR report was released in 2015. And from this we expect the stakeholders that we care about, and who care about us, to be fully aware of and appreciate the efforts we have made in moving towards sustainable development.

Despite the huge challenges we face, we will act to show our firm commitment to create long-term value for our shareholders, employees, and the community. This is a commitment both to our contribution to the industry and to our business policy.

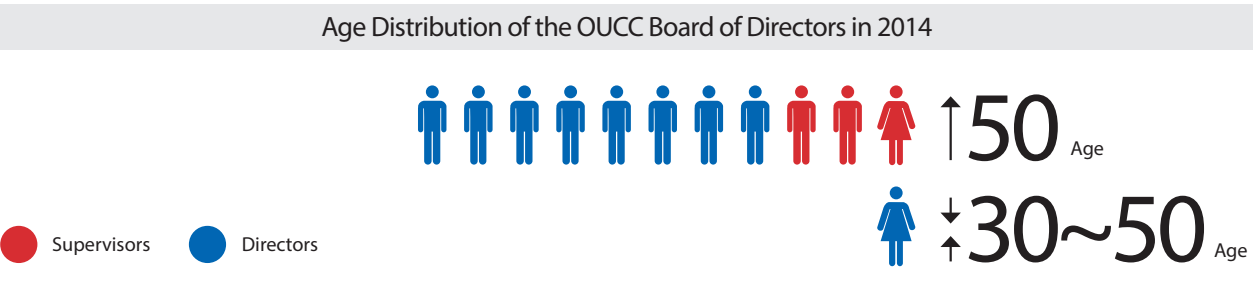
“Integrity in management, stability and reliability, and corporate responsibility” are the pillars supporting the OUCC on the journey towards sustainable development. We have extended this idea into our daily operations and communication to our stakeholders in a truthful, transparent, and timely manner in the annual CSR report.

## Integrity Governance

There are nine directors on the board (8 men and 1 woman) but no independent directors have been appointed. The directors exercise their authority and duties in accordance with Company Law, the Articles of Incorporation of the OUCC, the Rules of Procedure for Directors Meetings, and the relevant laws and regulations. The directors, supervisors, and management personnel all take part in regular corporate governance education and training. (Please refer to pages 24 and 25 of the Annual Report for detailed information).

A Remuneration Committee has been established to determine and review the performance and remuneration of the directors, supervisors, and management on a regular basis. The remuneration of the board as well as employee bonuses are set in accordance with the annual operating performance of the Company and the percentage of distribution as set down in Article 34 of the Articles of Association. Additional proceeds are distributed depending on overall operating performance, taking into account a market salary survey made by a professional management consulting firm, an investigation related to the industry salary levels and those of listed companies, as well as the overall financial risk of the business environment.

The operations and financial arrangements of the OUCC are independent from those of affiliated companies. All interaction with them is handled in accordance with the “Regulations Governing the Transactions of Related Parties,” “Procedures for Acquisition and Disposal of Assets,” “Procedures for Capital Lending to Others,” “Procedures for Endorsement and Guarantee by Public Company” and other relevant provisions. A risk control mechanism and a computer firewall have been properly set up.



## Anti-Corruption Mechanism

To establish good corporate governance, an efficient risk control mechanism, and a corporate management culture with business best practise, the OUCC has formulated management policies that are based on good faith to create a business environment for sustainable development.

The company is committed to the stipulation, supervision, and implementation of best practise in all management policies and precautionary programs. The Audit Department carries out regular audits and reports their findings to the Board. We take advantage of the regular internal management meetings for all employees to advocate further education and training.

The directors, supervisors, managers, and all employees of OUCC are bound to comply with all the requirements of the "Code of Conduct" and "Best Practise Principle" as published and posted on the company website. These codes of conduct serve to standardize ethical behavior throughout the company that all employees engaged in commercial acts shall not, directly or indirectly, offer, promise, request, or receive any improper benefit, or engage in acts of bad faith, breach of trust or fiduciary duty, or any other illegal conduct. Any violation of these codes will result in the offender being punishable under the Law and liable for compensation for damages incurred. In addition, it is clearly stated in the Rules of Procedure for Board of Directors Meetings that all directors are bound to circumvent the interest. The Board of Directors are also bound to fulfill their obligations in good faith and to ensure the implementation of the business best-practise principle.

Provisions have been made to protect the identity of whistle-blowers or informers and for the full confidentiality of all such events. Any violations of ethical management must be reported to a company

supervisor, the internal auditor, or other appropriate officer in charge. A "Complaints Email Box" has been set up on the company website [supervisor@oucc.com.tw](mailto:supervisor@oucc.com.tw) and will be dealt with by designated personnel.

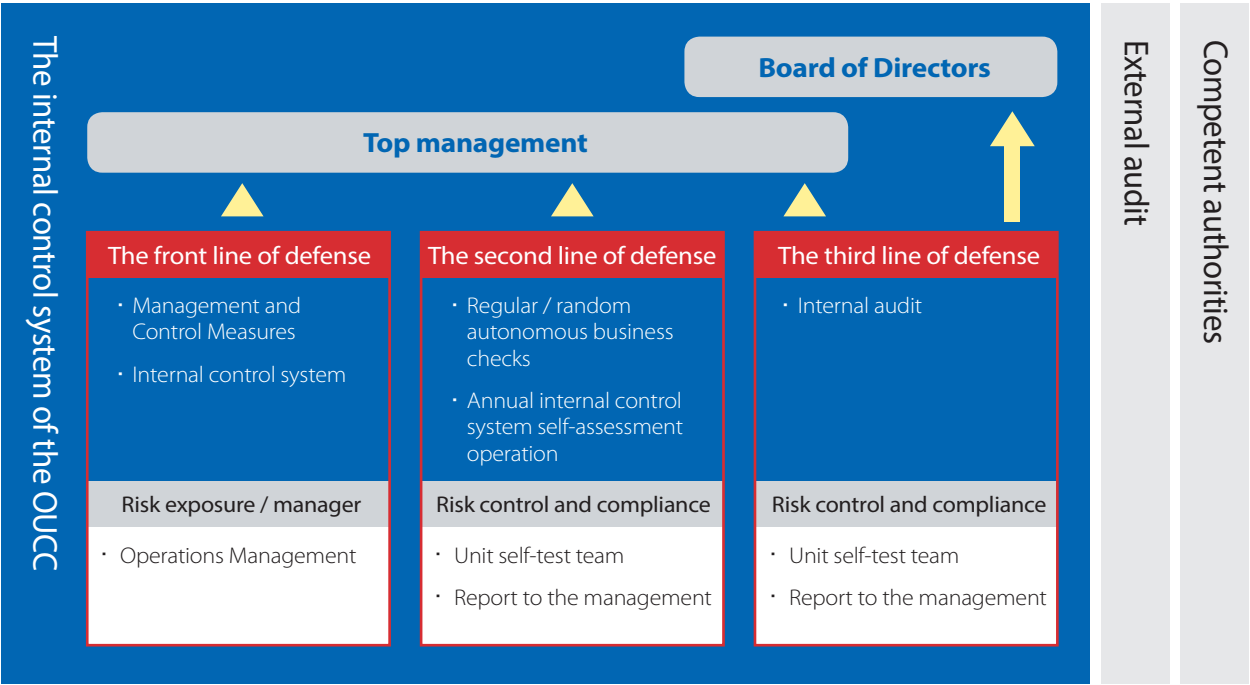
## A Sound Internal Control System

The internal control system of the OUCC has been approved and implemented by the Board of Directors. The system has also been approved by management, and other employees and is designed to provide sound management and secure the following objectives:

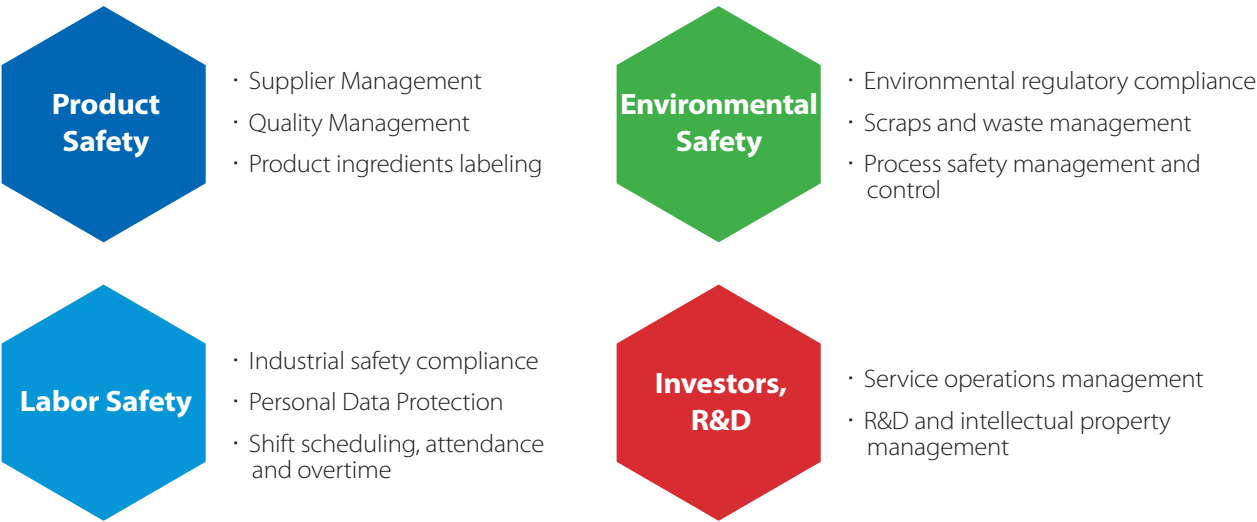
1. To ensure the effectiveness and efficiency of all operations.
2. That reports should be reliable, timely, transparent and in compliance with all the relevant specifications.
3. That all operations comply with the applicable laws and regulations.

The OUCC has an independent Audit Department that is directly responsible to the Board of Directors. The chief auditor, in addition to regular audit reports to the supervisors, attends Board meetings to present audits and discuss auditing matters. Audits are carried out to check and review the internal control system, uncover any nonconformities, and also to measure the effectiveness and efficiency of operations. Regular reviews and recommendations for improvements are conducted in a timely manner to ensure the effective implementation of the internal control system.

In addition to the internal audits, all departments carry out regular as well as random self-audits of operations management from time to time. The internal auditor then reviews the results of the autonomous audits of the different departments to ensure the implementation of the autonomous audits.



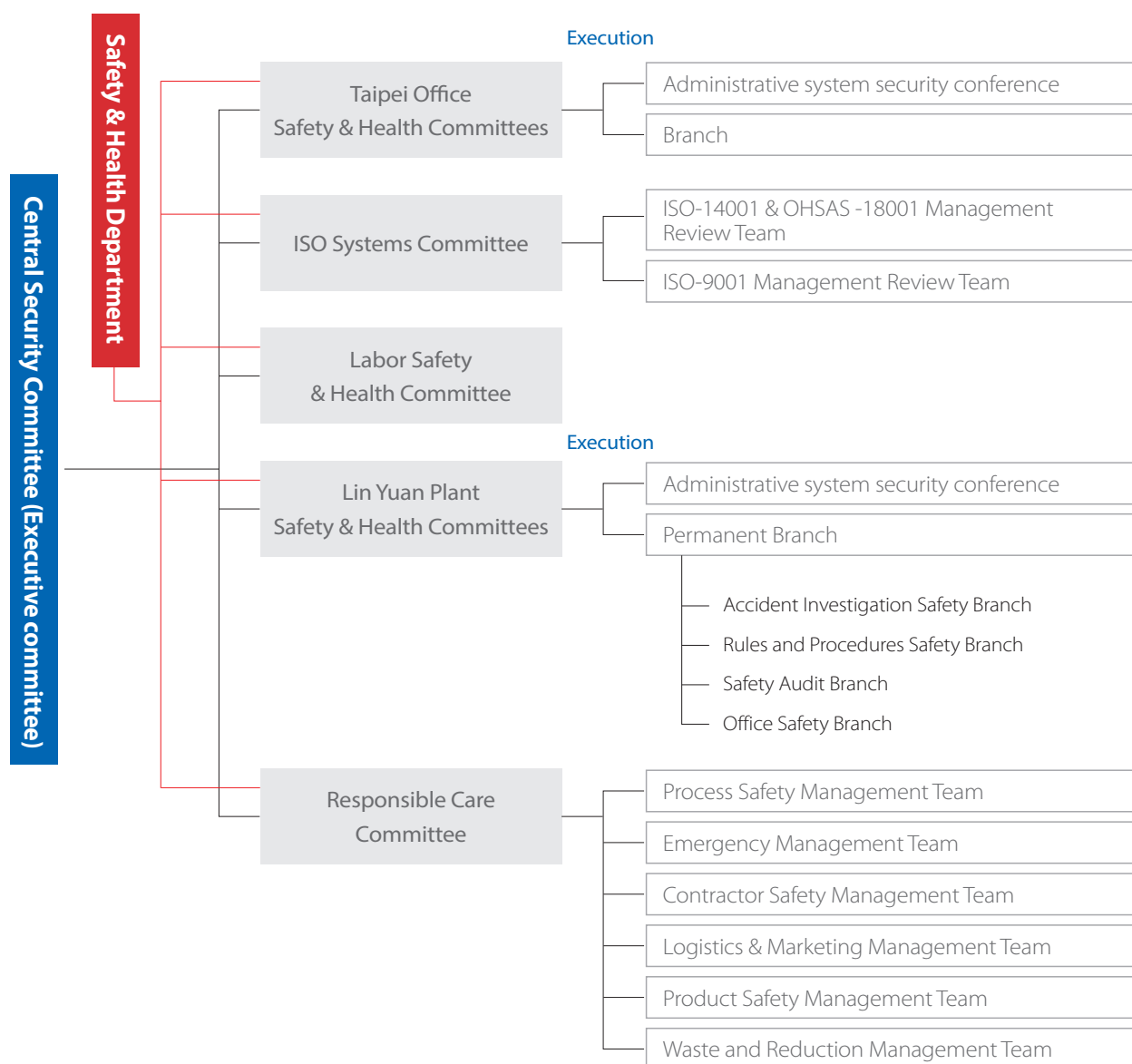
In response to requests from stakeholders about the implementation of CSR, we intend to include the CSR and industrial safety and environmental protection-related issues in the audit plan to ensure that the disclosure of business operation information meets the expectations of the competent authorities and the public.



## Stability and Reliability

Risk management is a vital component of sound operation of the Company. To ensure a balance between business operation and risk management, we have established a sound management & organizational system, and encounter measures to be engaged by the management level to ensure the stability and reliability of business operation.

### Risk Management Organization Chart



## Enterprise Operational Risk

Ensuring stable operation and planning comprehensive risk encounter measures are the main OUCC approach to business operation risk. In addition to overall management planning for risk and setting up the general responsive strategies and procedures, individual units will also make their own appropriate plans for encounter of operation-related risk. Such precautionary planning will ensure the impact of an untoward event on company operation will be minimized through regular testing and drills.

### 1. Asset risk encounter measures: Asset risk can be shifted and reduced by the acquisition of insurance.

#### 1. Property risk assessment

Loss-prevention insurance company personnel are invited to visit the plant each year to jointly assess with manufacturing and environmental safety personnel the categories of property risk and the potentially dangerous situations. Corrective action for any controllable risks can be adopted in advance while loss-prevention technology be introduced to prevent the occurrence of dangerous situations.

#### 2. Insurance planning

The transfer of unavoidable risk and force majeure by the acquisition of the necessary insurance in proportion to an assessment of the degree of risk. To formulate insurance strategy and insurance terms and conditions the company can buy a blanket insurance policy for all property at replacement cost. This includes business operation interruption insurance and comprehensive engineering insurance.

### 2. Accounts receivable risk responsive

#### measures:

The OUCC has established a Credit Committee chaired by the President. Members are elected from Administration, Sales, Finance and the Auditing departments. Directors appointed as Committee Members regularly review and assess customer credit status and the credit lines granted. Customer's sales credit as well as accounts receivables are examined regularly. To reach the annual management objective of "Zero Bad Debt" the overdue receivables are reviewed monthly.

### 3. Interest rate risk response:

The market interest rate has been edging upwards over recent year and the company is committed to reducing the cost of loans. Plans to secure stable long-term, low-interest loans according to company capital needs have been made in order to avoid the impact of interest rate fluctuations on profit and loss.

### 4. Exchange rate risk response:

The OUCC export products are denominated in foreign currencies that are frequently translated in accordance with the bookkeeping exchange rate. Exchange gains and losses from the transactions are within the scope of control. This policy will be continued with frequent attention being paid to the exchange rate trends. We will also adjust the position of foreign currency assets and liabilities depending on changes in rate to reduce the impact on profit and loss. In addition, company purchases of raw materials denominated in foreign currency can also help offset the impact of exchange rate fluctuations on profit and loss.

## Climate Change Risk Management

To ease the danger from natural disasters caused by the extreme weather resulting from climate change, or other causes in the plant area, the OUCC has planned various insurance programs to reduce loss to natural disasters. In 2014 we also took the initiative to repair RTO1 and replace the CC20 catalyst at a total cost of \$670 million. This investment also resulted in a reduction of the amount of carbon emission from OUCC operations.

### 1. Earthquake insurance:

Earthquake insurance has been added to the property insurance policy with claims limited to 23% of the total insured amount. According to a seismic risk hazard assessment report prepared by the Fubon Insurance Company, this insurance is sufficient to cover an earthquake with a regression of more than 2,500 years and will minimize losses to the OUCC from earthquake damage.

### 2. Typhoon flood insurance:

The insurance coverage for typhoon floods is limited to 1/3~1/2 of earthquake coverage and an insurance claim is limited to 10% of the total insured amount. In the event of a typhoon flood there should generally be no significant loss if the machines are turned off normally. The important equipment inside the plant had been elevated after the "August 8th flood incident" to ease loss and damage from flooding.

## Information Security Risk Management

The OUCC has built a remote backup service to control the information security risk. In the Lin Yuan Plant, the IT hub and backup system are located in different buildings and several safety measures have been adopted for control and security:

### 1. Built up the cloud data center at the Kaohsiung Lin Yuan Plant.

The data center contains ERP, applied system, and other important systems and databases and the following efficacy have been proved after some years of application and validation:

- I. The self-erected cloud database has allowed safer internal data access and reduced the vulnerability of a leased cloud environment to a hacking attack.
- II. With high flexibility, cloud storage space can be divided and assigned to different types of applied servers by which means the problem of waste of storage space of the old-type has been solved.

### 2. Two 8MB MPLS VPN data lines are set up between Taipei office and Lin Yuan plant.

Their main use is for video conferencing and data transmission. In addition to lower cost when compared to a point-to-point line, the use of ISP transmission encryption and decryption technology makes data transmission much safer. The two lines are used together using an ISP full backup facility to achieve an uninterruptible connection. In addition, the line has dynamic bandwidth control (QOS) that provides a bandwidth of 4M that guarantees the quality of video transmission. Data transmission can be up to 16M.

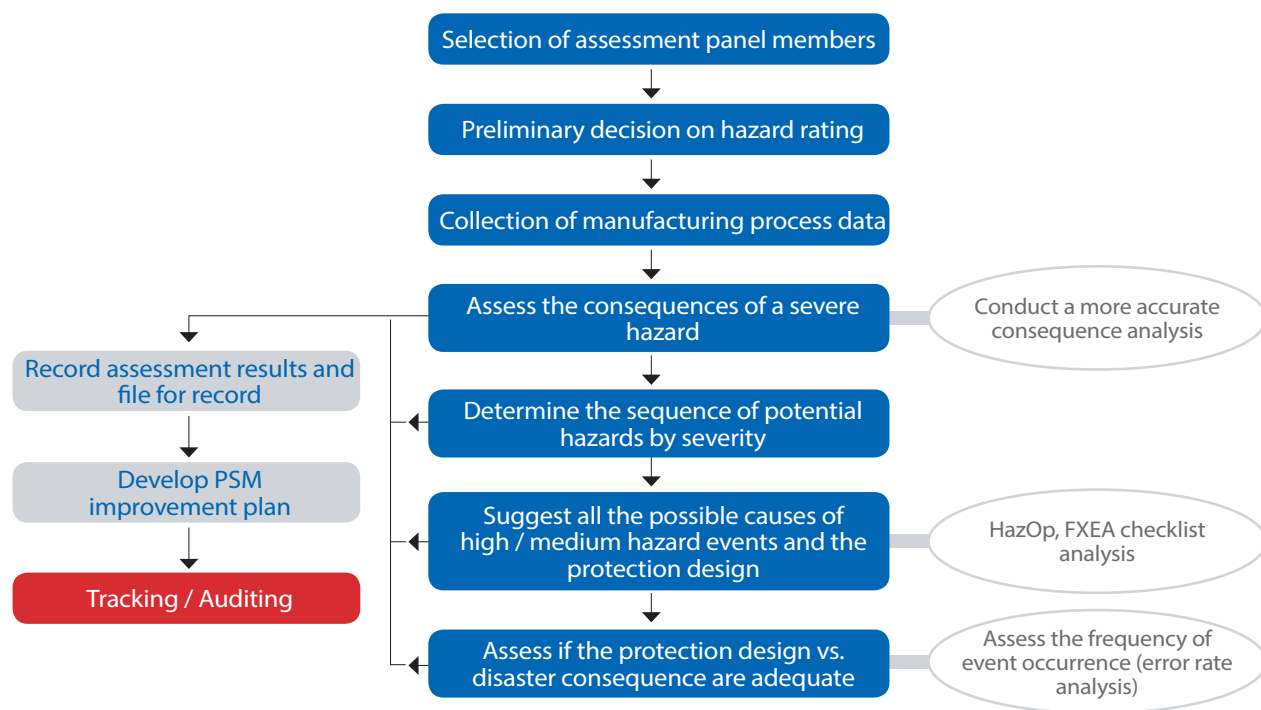
## Manufacturing Process Hazard Risk Management

The OUCC regards “hazard control” as the most critical of all safety management measures. We believe that only the most stringent hazard control can actually reduce the risk of workplace accidents, possible personnel casualties, occupational injury and significant property loss. The OUCC has carried out manufacturing process hazard and operability (HazOp) analysis on the more hazardous processes associated with higher risk. A hazard prevention model has been constructed as well as a risk management process that reduce the probability of industrial accidents.

HazOp is a well known analytical technique frequently used by labor inspection units. The OUCC has executed HazOp analysis for all new installations as well as for the existing ones and an assessment is carried out at least once every five years. The personnel with manufacturing process safety assessment certificates or licenses complete a further training course every three years.

Moreover, the OUCC has also introduced Layer of Protection Analysis (LOPA) technique in the newly established EOD plant in 2010. High-impact events from the HazOp analysis of the EOD plant were selected for LOPA analysis. The security protection layer was strengthened to achieve the expected degree of risk management. A LOPA analysis of the existing processes (EG/EA/EC) was also completed.

### Manufacturing Hazard Analysis Process

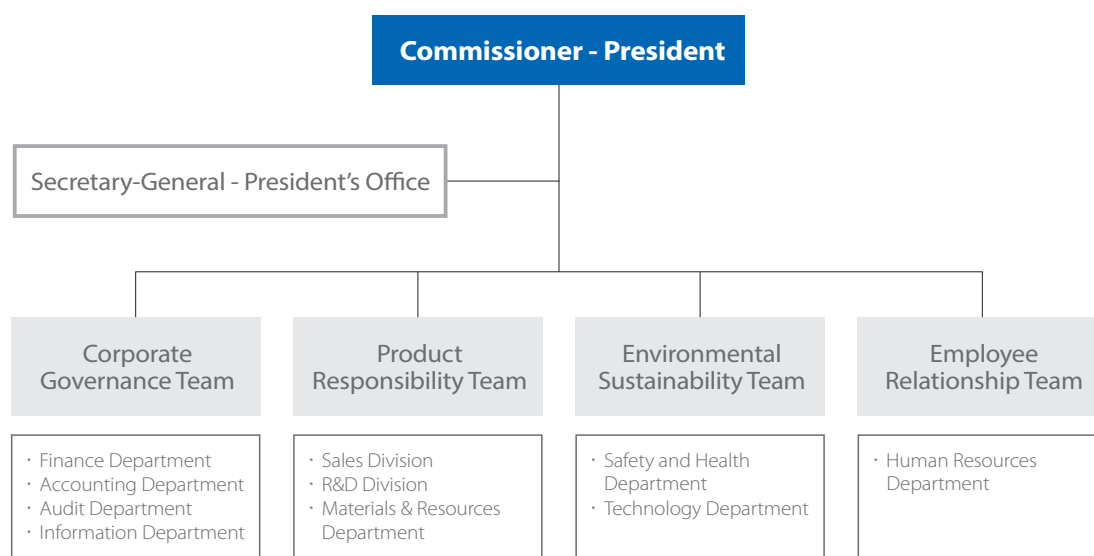


## Corporate Responsibility

CSR management was initiated in 2014 and at the same time a CSR Committee was created. The President was appointed as the Commissioner responsible for final decision making, action plan review, and approval of the final reports.

The head of each department, Junior Vice-President or Senior Manager, is appointed to the CSR Committee. Senior management is responsible for the sub-committees elected to handle the relevant CSR policies, action plans, and cross-departmental coordination. In principle, the CSR Committee holds regular meetings as well as extraordinary meetings for any specific CSR issue that might need an immediate response. All the management processes, results of assessments and general CSR information is communicated to stakeholders through the company CSR website.

### OUCC CSR Committee Organizational Structure



The first CSR discussions at the OUCC are initiated by the CSR committee. The considerations and issues in the CSR report are judged in accordance with the management of each department, correspondence with the stakeholders, and the needs proposed by them. Also, to ensure of an objective and representative judgment, a CSR Committee meeting is held to discuss and confirm the issues according to the first judgment delivered. These steps ensure that all the issues related to sustainable development will be properly disclosed in the CSR Report.

We use the six principles of the AA 1000 SES "Stakeholder Engagement Standard (SES)" (V.2011) to identify the OUCC stakeholders in accordance with responsibility, influence, familiarity, dependency, status, and policy implications and they include employees, suppliers, corporate customers, shareholders and investors, the government, and the competent authorities.

## Diversified Stakeholder Communication

We value the suggestions of our stakeholders which provide strength for progress and help us meet the needs of our corporate customers for product safety and quality. We provide a number of communication channels to make it easy for stakeholders to voice an opinion and also to get a response.

The OUCC believes that sustainable action can only be included in corporate business management through an understanding of the needs of stakeholders and by transparent disclosure of the issues of concern in a way that fulfills CSR commitments.

### OUCC Stakeholder Communication Channels

Stakeholders	The main communication channel and frequency	Concerned issues
<b>Investor (shareholder)</b>	<ol style="list-style-type: none"> <li>1. One shareholders meeting and one investor conference were convened in 2014.</li> <li>2. Spokesman hot line and mailbox.</li> <li>3. The company website discloses financial services and corporate governance information.</li> <li>4. The CSR website and report (annual).</li> <li>5. MOPS</li> <li>6. Occasional participation in the legal person's forum.</li> </ol>	<ul style="list-style-type: none"> <li>• Corporate governance</li> <li>• Industrial competition</li> <li>• Business development and performance</li> <li>• Risk management</li> <li>• Dividend policy</li> </ul>
<b>Employees</b>	<ol style="list-style-type: none"> <li>1. Employee Welfare Committee</li> <li>2. Set to convene quarterly labor-employer meetings.</li> </ol>	<ul style="list-style-type: none"> <li>• Occupational health and safety</li> <li>• Labor employment</li> <li>• Education and training</li> <li>• Freedom of assembly and negotiation</li> </ul>
<b>Corporate customers</b>	<ol style="list-style-type: none"> <li>1. Annual, customer Satisfaction Survey</li> <li>2. Through e-mail and occasional distribution meeting.</li> <li>3. Customer visits (occasional).</li> <li>4. The company website (occasional).</li> <li>5. The CSR website and report (annual).</li> </ol>	<ul style="list-style-type: none"> <li>• The impact of products and services on the environment</li> <li>• Greenhouse gas emissions</li> <li>• Customer privacy</li> <li>• Occupational health and safety</li> <li>• Environmental regulations compliance</li> <li>• Anti-corruption</li> </ul>
<b>Supplier / contractor</b>	<ol style="list-style-type: none"> <li>1. Supplier periodical evaluation (annual).</li> <li>2. The CSR website and report (annual).</li> </ol>	<ul style="list-style-type: none"> <li>• Raw material</li> <li>• Energy management</li> <li>• Water resources management</li> <li>• Supplier environmental assessment</li> <li>• Supplier social impact assessment</li> </ul>
<b>Local community</b>	<ol style="list-style-type: none"> <li>1. Charity donations (occasional).</li> <li>2. Event sponsorship (occasional).</li> <li>3. Telephone contact (occasional).</li> <li>4. The CSR website and report (annual).</li> </ol>	<ul style="list-style-type: none"> <li>• Wastewater discharge and waste</li> <li>• Air pollution emission</li> <li>• Environmental regulations compliance</li> <li>• Impact of transportation on the environment</li> </ul>
<b>Government agency / Non-government agency</b>	<ol style="list-style-type: none"> <li>1. Periodic reports at the request of government agencies (occasional).</li> <li>2. Periodic regulatory audit (occasional).</li> <li>3. Academic research cooperation (occasional).</li> <li>4. Social participation (related Union / Association (occasional).</li> <li>5. The CSR website and report (annual).</li> </ol>	<ul style="list-style-type: none"> <li>• Product and service compliance</li> <li>• Compliance with Local regulations</li> </ul>

### The 2014 G4 major consideration and organization boundary

Note: The OUCC is the main entity within the organization and those outside the organization include local communities, suppliers, storage and transportation companies, and corporate customers.

● Indicates importance or point of impact

#### Economy category

Scope	Boundary				
	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Economic achievement	●		●	●	●
Market image	●				

#### Environment category

Scope	Boundary				
	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Raw Material	●		●	●	●
Energy consumption	●		●	●	●
Water resource management	●		●		
Air pollution emission	●	●	●	●	●
Wastewater and waste	●	●	●	●	●
The impact of product & service on the environment	●				●
Environmental regulations compliance	●	●	●	●	●
Impact of transportation on the environment	●	●		●	
Overall environmental expenditure	●	●			

#### Product responsibility

Scope	Boundary				
	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Customer health & safety	●		●	●	●
Product & service labeling	●		●		●
Customer privacy	●		●		●
Product & service compliance	●		●		●

#### Community category

Scope	Boundary				
	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Local community	●	●			
Anti-corruption	●		●		●
Public policies	●	●			
Organization operation compliance	●			●	

## Human rights category

Scope	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Freedom of assembly and association & collective agreement	●				

## Labor category

Scope	The OUCC	Local community	Supplier	Storage & transportation company	Corporate customer
Labor relations	●				
Occupational safety & health	●		●	●	●
Education & training	●			●	

## Material Issues of the OUCC in 2014



Note: Indicators of major consideration disclosed in the CSR Report.

# Sustainable Risks and Challenges of the Chemical Industry



The OUCC fully understand the challenges faced by the chemical industry for sustainable development, especially after the Kaohsiung gas explosion incident in 2014 that has had an indelible affect on stakeholder perception of the petrochemical industry. According to 2014 statistics, the petrochemical industry contributed nearly NT\$2 trillion in production value, accounting for more than 10% of gross domestic product (GDP). It is also one of the most important sources of raw materials essential for consumer goods.

Therefore, the OUCC takes practical action in response to the risks and challenges faced by chemical industry as well as to changes in the external environment. We are committed to communicating and working with stakeholders to build and promote sustainable development for both society and industry.

The OUCC has established policies and standards to cope with the key issues, these include: quality and safety, chemicals delivery, environmental health and safety, emergency response, and climate change. This has been done through staff education and training, with regular drills, that minimize the risks and uncertainties of each issue. The OUCC understands that the way to sustainable development is long and hard and needs real persistence. The CSR Report will include exact details of every risk that needs strict management in addition to normal internal control.

## Quality and Safety

The OUCC has developed and implemented an effective quality management system that undergoes regular improvement. Raw material and product quality both have been upgraded in compliance with local and international standards, in order to maintain the trust of our customers.

Furthermore, highly efficient catalysts are used to enhance the effectiveness of factory production and raw material utilization. The CO<sub>2</sub> emitted in the production of ethylene oxide in the ethylene glycol plant has been used as raw material in the ethylene carbonate plant, which has enabled to reduce greenhouse gas emission and minimize the effect on the environment.

### Challenge

The “quality and safety” issue has been a challenge to the OUCC because our product manufacturing processes involve hazardous and environmentally dangerous factors. The production technology requirements and specifications, the laws and regulations in force, as well as customer requests present major challenges to both quality and safety. We continue to improve product quality and process safety using all the available strategies and means at our disposal.

### Disclosure on Management Approach

The OUCC received an SGS ISO-9001 certificate on July 29, 2002. Customers receive products that meet all regulatory requirements according to international standards through a thoroughly systematic operation. There has been no major failure of quality so far and the certification is valid. In response to EU RoHS directives, all material, formulations, and manufacturing processes have been tested individually to confirm the claim that they are all lead and cadmium free.

## Practices and Results

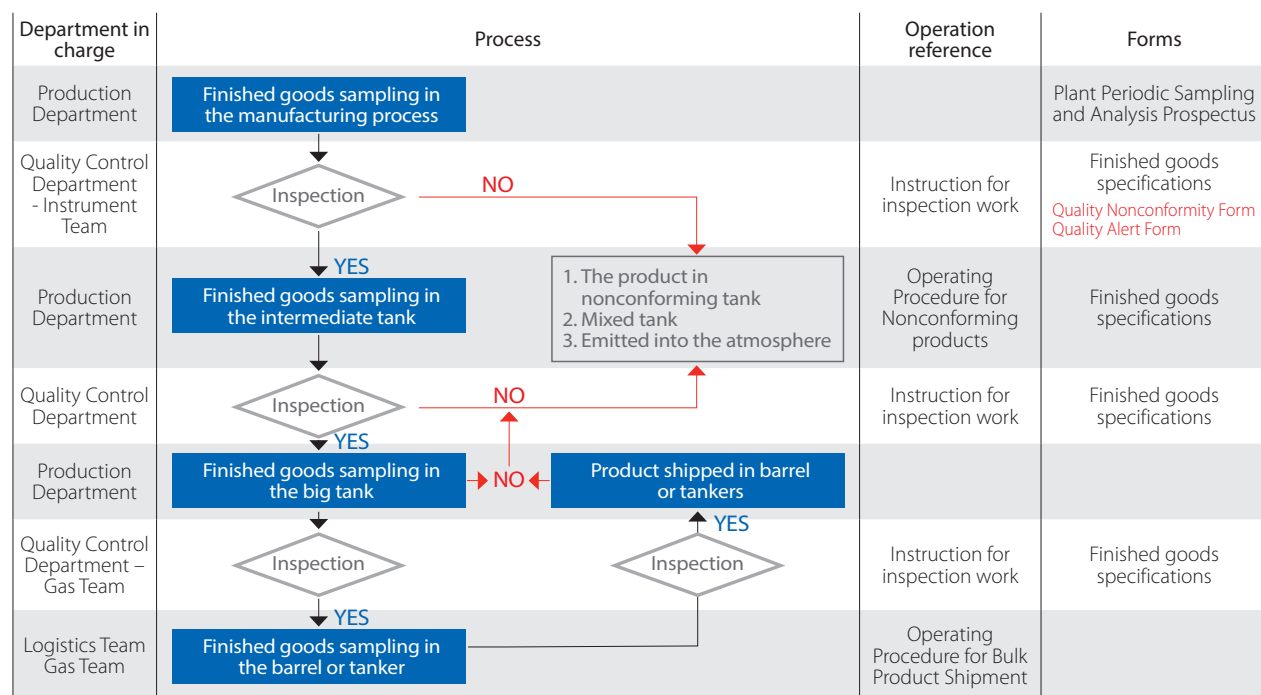
The OUCC implemented the ISO-9001 quality management system in 2002 and adheres strictly to all its requirements. The entire quality management system follows the corporate spirit of the Far Eastern Group's "future challenge, dedication & innovation, perspective operation." The company is absolutely committed to the expansion of sustainable development and the quality and specifications of all the products fully meet international standards and the needs of the customers.

We have deliberately set the product realization procedures, including raw materials management, stockfeeding inspection, process and production control, product protection, process chain management, product identification and traceability, periodic sampling, site monitoring recording and storage, and statistical

technique to ensure that product quality remains in line with customer demand and all the laws and regulations.

A customer satisfaction survey is carried out every year to validate product conformity, to ensure compliance of the quality management system, and to improve its effectiveness. All customer complaints, information or suggestions are taken into account when the performance of the quality management system is measured. An internal audit is carried out every six months and an annual external SGS audit is made to ensure effective implementation and maintenance of the quality management system. Corrective action is taken for any nonconformity found during an audit and the root cause is also corrected or eliminated.

All company products are inspected in accordance with the Operating Procedures for Finished Goods Inspection and regulations before release.



Note: "Emissions into the atmosphere" - refers to the Company's nitrogen, oxygen, and argon which are non-toxic and are emitted directly into the atmosphere in the event of failure of the finished product inspection, either before or after being bumped into the tank, of which latter has never happened.

### Low Residual Toxic Substances (Ethylene oxide & 1,4-Dioxane)

A critical quality control point has been set for each stage of the manufacturing process to reduce the presence of toxic substances in products. For example, the ethylene oxide residue in EOD product is controlled during manufacture and will be less than 1ppm while the by-product 1,4-Dioxane will be less than 5ppm.

As for product safety, an example is lauryl alcohol polyvinyl ether. This product is certified by SGS-Taiwan, it does not cause skin sensitivity and can be used safely by the consumer. The Safety Data Sheets of every OUCC product is available to the public on the company website and this includes complete chemical property and toxicity data.

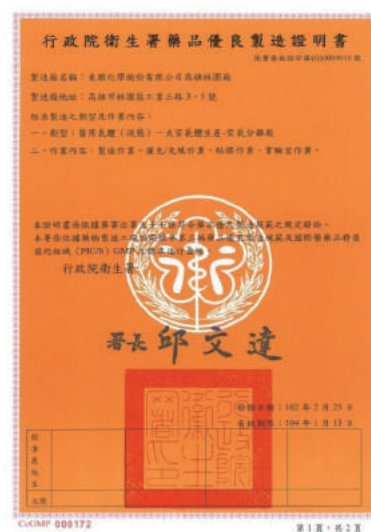
### Reducing Harm of Product and Residual Materials

The OUCC fatty alcohol ethoxylates are primarily used as a nonionic surfactants and are the main active ingredient of liquid hand soap, laundry detergents, shower gels, laundry powders, general detergents, and metal cleaning agents. The product specifications are strictly controlled and ethylene oxide residue (affecting human health)  $\leq 1$ ppm, and 1,4-dioxane (by product)  $\leq 5$ ppm.

The liquid CO<sub>2</sub> from OUCC only affects health due to impurities in the form of hydrocarbons. The CO<sub>2</sub> factory specification is Methane  $\leq 20$ ppm, total hydrocarbons  $\leq 50$ ppm, and purity  $\geq 99.95\%$ . Medical oxygen release criteria are based on the US Pharmacopeia specifications: Carbon monoxide  $\leq 10$ ppm, CO<sub>2</sub>  $\leq 300$ ppm, and purity  $\geq 99.0\%$ , odorless and tasteless.

### Medical Oxygen GMP

The OUCC medical oxygen (as liquid) received the Executive Yuan Department of Health Pharmaceutical Good Manufacturing Certificate in February 2013. OUCC medical oxygen with the US Pharmacopeia 35 manufacturing specifications is fully compliant with the pharmaceutical manufacturing plant standard Chapter 3 Good Manufacturing Practice and GMP standards of the Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme(PIC/S).



## Recycling and Reuse

In addition to product quality, the OUCC is committed to waste recycling. This is not only environmentally beneficial but a reduction of waste, which can lower raw material cost and contribute to environmental protection, creating a win-win situation.

### Thermal Kerosene Recycling

Used thermal kerosene is outsourced by OUCC for recovery and refining after which it is returned for reuse at the plant.

Year	Unit	2012	2013	2014
Amount recovered	kg	36,680	40,960	<b>37,189</b>
Amount reused	kg	31,654	35,162	<b>31,800</b>
Recycling percentage	%	86.3	85.8	<b>85.5</b>

### EOD Recycling

Liquid waste and highly concentrated EOD products were recovered from the EOD pilot plant and collected by the Logistics Team for recycling at the pilot plant. A total of 5.7 tons of EOD liquid waste was treated in 2014, representing an average recovery rate of 98.7%. The processed EOD was returned to the EOD production plant.

	Unit	2014
Amount recovered	kg	<b>3,888.48</b>
Amount reused	kg	<b>3,833.52</b>
Recycling percentage	%	<b>98.59</b>



### Liquid Waste Recycling

Solution K is used to absorb CO<sub>2</sub> in the EG production process and the main component of this is potassium carbonate (K<sub>2</sub>CO<sub>3</sub>). The heat stable salt (HSS) concentration in the solution rises gradually and after some time the CO<sub>2</sub> absorption rate goes down and solution K has to be replaced or replenished.

Solution K saturated with HSS was sent to the pilot plant for recycling where the HSS was removed. This was done by dehydration, salt crystallization, and filtration. A total of 1.7 tons of solution K was recovered in 2014, representing a 93.4% recovery rate. Effective liquid waste recycling helps achieve a win-win situation of environmental protection for the industry.

	Unit	2014
Weight of solution K waste	kg	<b>346.60</b>
Weight of solution K recycled	kg	<b>323.75</b>
Recycling rate	%	<b>93.41</b>



## Chemical Transportation Safety

Chemical transport can be divided into inland transport and marine transport. Inland transport can be further divided into pipelines transport, railroad transport, and road transport. As densely populated as Taiwan and with no roads especially designated for chemicals transport, many chemicals are transported on public roads resulting in close interaction with the public. Therefore, road accidents involving vehicles transporting chemicals may often present an immediate threat to the lives and property of people in proximity and also cause substantial loss to an enterprise and the society.

### Challenge

Road delivery of chemical products via tanker is outsourced to transport providers under contract with OUCC. The petrochemical products carried in tankers may be hazardous in several ways. There may be risk of explosion, corrosion, combustion, oxidation, or toxicity. A road accident may cause a tanker to overturn and leak the content from a damaged tank. In many cases this may be sudden and extremely dangerous, which not

only threaten the driver and crew of the tanker, other road users, nearby residents and their property but also the rescue personnel, in addition to serious jeopardy to the environment. Such an accident can have grave consequences and involve huge social cost. The root cause of the leakage of hazardous substances includes human error, vehicle failure, faulty storage facilities, bad road conditions, natural disasters and the environment.

Risk factors	Possible incidents
Human error	1. The inlet valve is not closed properly after a tank has been filled. 2. The tanker driver fails to fully comply with traffic rules, for example: speeding, sleep deprivation, drunk driving, running red lights, keeping no safe driving distance, etc. 3. Other road users fail to follow traffic rules and collide with the chemical tanker, or cause the tanker driver to veer and lose control.
Vehicle failure	1. Vehicle mechanical failure: brakes, steering tire blowouts or punctures, structural failure. 2. Transport tank not correctly coupled with the vehicle or the coupling device has been damaged.
Storage facilities	1. The tank has been used for too long and may be corroded or be defective in other ways. 2. The chemical load is incompatible with the tank material. 3. The internal pressure is too high for tolerance of the tank. 4. Leaking valves or leaks from pipeline accessories or other parts.
Road and environment	1. Poor geometric road design: too sharp curves, steep hills, obstructed view of the road, etc. 2. Unclear and insufficient traffic direction and warning signs. 3. Poor road conditions and obstructions.

Disclosure on Management Approach

To ensure the safety of tanker transport, the OUCC transport contract signed with the outsourced transport provider has very strict specifications and conditions. The tankers must comply with all the national laws and regulations. The potential harm from overturned tankers and the various hazards that may be the root causes of such accidents must be analyzed to review and improve the management system that is essential for transport safety. Furthermore, all the transport companies contracted by the OUCC must have all the aforementioned risks included in their emergency response procedures.

The main OUCC response to chemical transport problems include strengthening hardware inspections, enhancing the proficiency of the operators, and improving emergency response capability. In addition to establishing a security mechanism for outsourced transport companies by strict regulation and audits, information should be gathered for case studies.






Information about chemical transport should be sent to drivers and dispatchers and they should undergo periodic education and training. Drills should also be held to enhance their response to a crisis.



## Practices and Results

The outsourced gas tankers are all tested by a national certification institution. To strengthen transportation security, specifications for road safety compliance inspection of the vehicles used by the transport providers is included in the contract, and covers entrance, the transport process, and audits within the scope of labor inspection. We ensure product transportation quality and safety by strengthening the training for handling chemical products and for actions to be taken in response to an emergency.

1. In 2014 transport contractors participated in a field visit and evaluation with a 100% pass rate.
2. Three transport contractors (accounting for 37.5%) have passed ISO14001 and six (75%) passed OHSAS 18001.

Process	Requirements description
 <b>Specification</b>	<ol style="list-style-type: none"> <li>1. Contract: Supplier conduct is regulated by clauses in the transport contracts.</li> <li>2. The hazardous products road transport prospectus and material safety data sheets must be submitted to the local motor vehicle supervision office for the issue of a temporary permit that must be on board with the driver before loading and shipping. The driver must drive on the scheduled transportation routes at the stipulated times.</li> <li>3. Vehicle hardware requirements: No retreaded tires (except for the onboard trolley). Each tanker should have two functional (speed and image) Pedestrian Detection Systems as well as GPS so the tanker can be located.</li> <li>4. Driver requirements: The driver must have dangerous goods transport license, high-pressure gas operating license, high-pressure container operating license, and driver's license. He must also have an annual physical checkup document. A driver with heart disease or hypertension is prohibited from driving chemical tankers.</li> </ol>
 <b>Plant access</b>	Each transport vehicle entering and leaving the factory will be required a checkup. Drivers are requested to do voluntary inspections and have OUCC staff review accordingly. The loaded vehicles must be checked the same way.
 <b>In transit</b>	Each transport route must be confirmed by the motor vehicle supervision office. The driver must drive on the scheduled route set down in the temporary road permit and the journey will be confirmed by GPS recording.
 <b>Emergency response mechanism</b>	Each transport company is required to provide an emergency response prospectus. A transport company is selected from one type of transport service for an emergency drill and the fire brigade is invited to participate. Two or more other transport companies are chosen from each type of transport service to participate in further drills.
 <b>Audit</b>	A transport contract is valid for one year. Drivers should refresh training once every six months. The transport company receives an onsite audit that is part of the vendor audit.



### Transportation safety information


This is processed in accordance with Subparagraph 3, Paragraph 1, Article 84 of the Regulations Governing Road Traffic Safety as below:

Vehicles loaded with dangerous goods must be identified with a warning sign on a plate fastened on the right side, the left side, and the rear of the vehicle. It must bear a message as set out in Attachment 8. The warning signs and plates must be made of reflective material that cannot be deformed, or suffer wear and tear, fading, or peeling. The signs must be clearly visible at all times during the journey.



### Emergency response mechanism for liquid leaks

1. A transportation accident shall be reported immediately in accordance with the "OUCC Emergency Response Report Procedure."
2. The Plant Manager or Director will dispatch personnel to the site. The Environmental Safety Team (environmental protection matters follow-up), Production Department (chemical-related matters follow-up), and Logistics Team (transport company vehicle scheduling and replacement matters follow-up), shall all be informed and assistance may also be requested from the Maintenance Department if necessary.
3. The Safety and Health Department shall contact the local fire brigade (119), environmental agencies, transportation agencies, the Executive Yuan EPD Southern Taiwan environmental toxic disaster response team, ERIC national toxic disaster counseling center, or other toxic chemical disaster prevention center, and chemical disaster relief organization support units to request support and assistance.
4. The Storage and Transportation Division shall dispatch one emergency vehicle equipped with emergency response equipment with all the necessary personnel to the accident scene.
5. Site commander: A local relief personnel assigned to the accident scene shall act as the site commander and coordinate operations with the environmental safety personnel to manage disaster relief. To secure the safety of personnel, unauthorized persons should be removed from the accident scene.
6. Warning signs should be set up around the scene of the accident to prevent secondary damage, the area should be cordoned off and access should be denied to unauthorized persons.
7. An announcement should be made by the spokesperson of the Lin Yuan Plant.
8. Request the transport company to arrange trucks and cranes for backup and to recover the damaged or undamaged goods or shift the tank and return it to Kaohsiung Plant for further processing.
9. Contact a waste disposal company that is equipped with vacuum slurry tankers as needed (such as, acids, alkalis, etc.) to help recover and transport the chemicals in the tanker or which have been spilled, clean the container, and drain the liquid from gutters and return it to the Kaohsiung Plant for further processing.
10. Decontaminate the ground and clean and wash the gutters until test samples are approved by the local Environmental Protection Bureau.
11. Take photos of the chemical barrels, vacuum slurry tankers, and contaminated soil and oil absorbent sheets removed from the accident site and returned to the Kaohsiung Plant for the records and future reference.
12. Accident review: The Logistics Team shall complete an accident report and hold a meeting with the relevant units and transport companies to discuss prevention of the recurrence of similar incidents.
13. The liquid recycled in the vacuum tankers should be discharged at the location designated by the production and the environmental protection units. The discharge pipe shall be covered by a filter to block debris. The production unit must deliver the recovered liquid to the wastewater plant spare pool at the manufacturing division after an analysis of chemical concentration and COD value.
14. The contaminated soil and oil absorbent sheets recovered must be handled by waste disposal vendors qualified by the Environmental Safety Team.



## Environmental Safety and Health

The OUCC is committed to the provision of a safe and healthy working environment and have made “zero accident, zero injury, and zero pollution” our goal. We have also complied with and introduced the relevant international SHE standards and regularly review the implementation to achieve protection of the global environment and the safety and health of our employees. It is our mission to create the best relationship with our stakeholders and the community, and together we may achieve the vision of sustainable development.

The OUCC supports “responsible” industrial development and improvement in collaboration with the Taiwan Responsible Care Association (TRCA). We are committed to the pursuit of balanced industrial safety, health, and environmental protection in accordance with the purpose of the TRCA.

### Challenge

The OUCC employees have achieved the goal of environmental protection with “Safety and Health, clean production, continuing improvement, and full participation.” Our industrial safety challenge is about how to build a “factory environment safer than home” and help all employees and suppliers understand, cooperate, and ensure the overall process and operation safety. We are therefore committed to ensure the health and safety of all personnel at the plant by carrying out all standard operations strictly according to SOP to the smallest detail.

## Disclosure on Management Approach

The environmental safety and health policies are carried out in every part of the plant to make sure production runs smoothly. Well-developed industrial safety and environmental protection measures are implemented and there are personnel responsible for air, water and toxic pollution, and waste. They plan, develop, supervise and promote environmental health & safety management. They are also responsible for equipment inspections and the guidance of implementation in other departments as well as equipment inspections related proceeding.

### Dedicated environmental protection personnel

1. Air pollution staff: Three Class A dedicated personnel.
2. Water pollution staff: Two Class A and two Class B dedicated personnel.
3. Toxic chemicals staff: Four Class A trained and qualified personnel.
4. Waste staff: One Class A trained and qualified personnel in waste management.

The OUCC has a Labor Safety & Health Committee where the labor representatives account for 42% of the members. The OUCC has received ISO-14001 environmental management as well as OHSAS-18001 occupational health and safety management system certification which ensures standard control and compliance. HAZOP study was carried out for each plant before construction began and the procedure for the management of change (MOC) is mandatory and must be carried out in advance to ensure safety remains intact after any changes related to process equipment, chemicals, technology, security and operation have been made.

Labor Safety and Health Committee	Unit	2012	2013	2014
The management of Labor Safety & Health Committee	Remark	Plant Manager	Plant Manager	<b>Plant Manager</b>
Total number of members of Labor Safety & Health Committee	Persons	12	12	<b>12</b>
Number of labor representative	Persons	5	5	<b>5</b>
Percentage of labor representatives	%	42	42	<b>42</b>

The environmental health and safety risks assessment for employees is carried out in accordance with "ISO 14001:2004 4.3.1 environmental considerations" and "OHSAS 18001:2007 4.3.1 hazard identification, risk assessment and determine control method."

There were no major accidents at OUCC in 2013 and the company received the "Management System Improvement Continuous Benchmark Award" and "Management System Performance Excellence Award" certificates from the SGS. The Kaohsiung Lin Yuan Plant received a "One Million Hazard-Free Working Hours" certificate from the Occupational Safety and Health Administration, Ministry of Labor and also received an "Environmental Sustainability" commendation from the SGS.

## Practices and Results

The OUCC upholds the spirit of self-discipline, has joined the TRCA to promote responsible care and has established six standard management guidelines (CODE): process safety, emergency response and safety, distribution safety, contractor safety, waste and reduction management, and product safety management. The implementation directions include:

1. The raw materials and products used are within the specifications of the safety data sheets available at the work places and departmental offices. Internet access is also available to the staff for reference so that the correct handling and action can be taken to ensure both personal safety and that of the plant.
2. Automatic sprinkler systems and other fire-fighting equipment are available in the production areas that can be operated in different ways (automatic, manual, and by remote control) to safeguard both personnel and the whole plant.
3. Monitoring points for combustible gases, EO, NH<sub>3</sub>, H<sub>2</sub> & boiler flue gas (SO<sub>x</sub>, NO<sub>x</sub>), and wastewater (COD, pH) are located at several different positions in the production area to detect leakage during production to prevent the development of any condition that may lead to a crisis.
4. Stipulate the Procedures for Hot/Hazardous Work Permit and Entry into Confined Spaces Permit to ensure the safety of personnel and equipment.
5. Promote contractor safety training and requirements in line with employee safety standards to ensure the safety of all personnel and the plant.

In addition to continued implementation of "ISO-14001 environmental management", we are actively promoting improvement in the effectiveness of the pollution prevention system and control. Eighteen underground monitoring wells have been prepared, as well as flammable gas monitoring stations to ensure environmental pollution prevention. The recycling of CO<sub>2</sub> is remarkably reused, waste gas incinerators and wastewater plants are being constructed and other environmental engineering projects are under way.

## Record of Awards

Date	Contents
2014.01.01	The workplace of this plant has been declared a non-smoking area as a health promotion measure. This has received healthy workplace certification from the Ministry of Health and Welfare.
2014.04.30	Received ISO-14001 and OHSAS-18001 certification again.
2014.08.19	Received the SGS "Environmental Sustainability Award".
2014.11.21	A commendation was received from the Fengshan District Office of Kaohsiung City for a donation of 500kgs of EG to facilitate spraying operations to help contain the dengue epidemic in the community.
2014.12.24	The Kaohsiung Lin Yuan Plant received a "One Million Accident-Free Working Hours" certificate from the Occupational Safety and Health Administration, Ministry of Labor.



## OUCC Safety, Health, and Environmental Principles

1. It is the responsibility of the staff as a whole to ensure a safe, healthy, and environmentally friendly workplace.
2. All injuries and occupational diseases can be avoided.
3. It is the responsibility of supervisors at all levels to train staff to work safely.
4. Employees are the most important company asset, and safety in work is also one of the conditions of employment.
5. Any nonconformity must be corrected as soon as possible.
6. Avoiding injury is a major employee contribution to the company.
7. Audits are necessary.
8. Contractor safety and management is as important as that of the employee.
9. Safety in the field is also important to company staff and to the plant.
10. Continue to improve clean production and be a good neighbor in the community.

## Occupational Accident Statistics

Lost Day Rate (LDR)		Unit	2012	2013	2014
Female labor	Work days missed	Day	0	0	0
	Total working hours	Hour	35,904	35,904	40,128
	LDR	%	0	0	0
Male labor	Work days missed	Day	0	23	0
	Total working hours	Hour	613,023	598,426	606,423
	LDR	%	0	7.69	0

Absence Rate (AR)		Unit	2012	2013	2014
Female labor	Total working days	Day	4,488	4,488	5,016
	Days absent	Day	0	0	0
	AR	%	0	0	0
Male labor	Total working days	Day	76,628	74,803	75,803
	Days absent	Day	0	0	0
	AR	%	0	0	0

Injury Rate (IR)		2012	2013	2014
Male labor		0	0.33	0
Female labor		0	0	0

Occupational Disease Rate (ODR)		2012	2013	2014
Male labor		0	0.33	0
Female labor		0	0	0

Injury rate (IR) = (Number of persons disabled or injured / Total working hours) x 200,000

Occupational disability rate (ODR) = (Number of occupational disabilities / Total working hours) x 200,000

Labor illness rate (LDR) = (Number of days lost due to illness / Total working hours) x 200,000

Absence rate (AR) = (Labor absence days / Total working days) x 100%

Total working hours = Number of employees x total working days x working hours per day (8).

or Total working hours = Actual statistical value in the human resources system

Total working days = Actual number of working days

Total days absent = Actual statistical value in the human resources system

Note: 1. 200,000 factor is used because each 100-employee works 50 weeks a year and 40 hours per week. 2. The OUCC absence rate calculation is based on the number of absence days.





## Staff –Health and Safety Promotion Project

We have set “Rules Governing Workplace Health” for the safety and health of employees, visitors, and contractors and to avoid occupational risk and protect all the people in the plant premises. We also take steps to ensure that all personnel are qualified and competent for their assigned tasks both physically and mentally. The OUCC Safety & Health Department has defined and implemented an operational environment test routine for the review, confirmation and control of occupational hazards.

We comply with the “Labor Health Protection Rules” in the implementation of general physical examination and health checkup for all employees in Lin Yuan. A “Labor Health Checkup Handbook” is issued to all employees, whose physical checkup records are kept by Safety & Health Department for 10 years.

The hospital will inform the OUCC and the employee of any abnormal findings. They will assist the employee with further medical review, advice and treatment until recovery. Other relevant health and safety prevention measures include:





The OUCC applied to the Health Promotion Administration for an “Independent Certification” mark. The mark was awarded in 2014 after one year of effort.

We invited “Dr Dai”, an internist at the Chungho Memorial Hospital of Kaohsiung Medical University, to give lectures and provide employees with physical fitness examinations. We cooperated with Kaohsiung Medical University for telehealthcare and the blood pressure of our employees was measured through this information platform as part of our employee health management.

We believe that “no matter how big the plant, there can be no gray safety area, because a chemical plant without safe production is not eligible to become an industry leader.” A “voluntary equipment management and maintenance observation activity” is regularly carried out at the plant to strengthen the stable operation. Units are selected for audit and observation on a monthly basis, and 2~3 special teams do walking management tours of the plant to record any nonfunctioning or nonconforming equipment or environmental problems thereof and make recommendations for their improvement.

Education and training project	Frequency	Hours	The number of participants	Investment fund
Fire safety				
Environmental protection	twice / year	6	320 persons each time	Est. NT\$100,000 each time
Safety and Health				
Outsourced training for licensed occupation safety personnel	Regular	3~6 hr	150 persons a year	Est. NT\$150,000 a year



## Environment – Air pollution control and prevention

Pollutant emission	Unit	2012	2013	2014
TSP	ton	4.125	1.983	<b>2.671</b>
SOx	ton	7.807	12.134	<b>19.843</b>
NOx	ton	6.782	9.9	<b>16.726</b>
VOCs	ton	55.075	44.461	<b>46.674</b>

### Air pollution control (Lin Yuan Plant)

The Lin Yuan Plant has acquired eight Fixed Pollutant Operator Permits in accordance with Article 24 of the Air Pollution Prevention Act. The main air pollutant emissions are: volatile organic compounds (VOCs), ethylene oxide (EO), and ammonia.

The pollution prevention equipment in the Lin Yuan Plant includes: Two Regenerative Thermal Oxidizers (RTO), one Direct fired Thermal Oxidizer (DFTO), two Catalytic oxidizers, and seven Scrubbers with 99% pollutant removal efficiency.

Type of pollution prevention equipment	QTY (unit)	Pollutants
Regenerative thermal oxidizer	2	VOCs
Direct fired thermal oxidizer	1	VOCs
Catalytic oxidizer	1	VOCs
Scrubber	7	EO, VOCs, & ammonia



## Environment – Waste disposal

The OUCC has outsourced chemical waste removal to a qualified waste treatment company. Recycled materials, after preliminary classification in the plant, are donated to the community charitable organization (Tzu Chi) for further processing and recycling.

Treatment	Unit	2012	2013	2014
Recycling	Ton	15.62	10.34	<b>15.8</b>
Incineration	Ton	100.43	205.33	<b>146.866</b>
Other (physical treatment and sanitation landfills handler)	Ton	896.8	1268	<b>1652.82</b>

Note 1: Recycling waste includes: Paper, fluorescent tubes, plastics, glass, household appliances, etc.

Note 2: Incineration waste includes: Ion exchange resins, mixed plastics, wood mixtures, thermal kerosene, lubricants, oil mixtures, household garbage, etc.

Note 3: Other waste includes: Insulation materials, fire-resistant waste, organic sludge, other single non-hazardous metal or mixed metal, non-hazardous organic waste or solvents, wires and cables, non-hazardous slag, sandblasting waste, etc.

### Recycling statistics

	Unit	Paper	Fluorescent tubes	Plastics	Glass	Household appliances	Total
2012	Kg	12,010	170	1,560	1,130	750	15,620
2013	Kg	6,700	40	1,050	2,040	510	10,340
2014	Kg	<b>9,750</b>	<b>130</b>	<b>2,900</b>	<b>2,810</b>	<b>210</b>	<b>15,800</b>

## Environmental issues appeal mechanism

The OUCC has stipulated operating procedures for “Environmental, labor safety and health, internal quality control, and external communication”. All advice, complaints or grievances made by the public are dealt with by the Environmental Safety Team or the shift supervisor and are all recorded in the “External Communications Log.” The Central Safety Committee depends on the content of the Log to ensure adequately trained security personnel respond in the shortest time. Minutes of any meetings held about the issue or investigation are kept and investigation or review of the issue must be carried out as soon as possible, depending on the severity of the matter.

We have a “Contact for Stakeholders” and “Contact for Environmental Protection Business” setup with several smooth communications channels. Contact information is also provided on the company website to ensure any environmental issues are dealt with immediately. There have been no complaints filed with the company over the last three years after effective management was implemented.



## Environment – Environmental expenses and fines

The OUCC values the importance of environmental protection and strives to reduce environmental impact through the promotion of investment in environmental resources. We are convinced that only through the effective management of environmental impact and the impact minimization of company operation on the environment can an harmonious and prosperous relationship be built between industry and the community, so will be the sustainable development of the company. The 2012~2014 statistics of environmental protection and public facilities expenditures are as follows:

Item	Unit	2012	2013	2014
Environmental protection expenditure	NT\$	6,994,358	9,241,527	<b>11,589,570</b>
Soil pollution / sewage treatment expenditures	NT\$	4,409,327	6,497,657	<b>5,866,799</b>
Total	NT\$	11,403,685	15,739,184	<b>17,456,369</b>

Type	Fine description	Amount (NT\$)	Corrective action
Environmental fine	VOC element excessive leakage	100,000	Strengthen inspection frequency / renew equipment
Environmental fine	VOC excessive leakage	100,000	






## Environment – Noise prevention measure

The OUCC plant "Noise prevention measures" include:

1. Notices of wearing ear protection are displayed at all the entrances to the plant with noise pollutant.
2. Personnel hearing tests are carried out every six months.
3. Plant personnel must wear earplugs or earmuffs before entering noise pollutant spaces.
4. Every employee is arranged for an annual precision hearing test.





## Emergency Response Mechanism

For risks associated with processing, operations, and transportation, which might occur at any time, the company regards product type and departmental accountability to proceed with comprehensive simulation and preparation for the probable accidents. A contingency plan is formulated and practical exercises, education and training are arranged to help on-site staff quickly appreciate the situation at an accident site and react effectively, so to minimize the damage of the accident and its effect on people and the environment.

## Challenges

Even the slightest negligence in the handling of chemicals during manufacture, storage or transport may lead to a chemical leak, fire, poisoning, or even explosion that may physically injure or harm the health of employees or even cause serious work environment pollution and personnel casualties. The biggest challenge to the OUCC is how to prevent an accident in advance, on a daily basis, and also how to respond and resolve should an accident occur.

## Disclosure on Management Approach

The OUCC has prepared the “Contingency Plan” for the prevention of occupational accidents and the protection of employees against fire, leaks, typhoons, earthquakes, war, transportation accidents, and to deal with notifications, evacuations, rehabilitation, and so on. Regular drills and counter measures are organized to cope with disasters that might occur, and to take immediate action in the event of an accident in an organized and systematic way to minimize damage and loss.

We use the “prevention is better than cure” strategy, and apply the concept of risk assessment to any potential risk in the production and manufacturing process. We apply simulation to predict the occurrence of possible disaster situations accordingly to formulate a contingency plan. Education and drills are enforced so that any inadequacy or insufficiency can be corrected in advance.

In the event of a disaster or an emergency the internal and external reporting procedure is immediately activated in accordance with the “OUCC Emergency Response Reporting Process.” In addition, the following comprehensive emergency response protocols are used to ensure that all employees will respond in the same coordinated way in the event of an accident:

1. The OUCC field pipeline leak emergency response principles.
2. The EG Plant raw materials field pipeline transportation procedures and nonconformity process.
3. The OUCC Lin Yuan Plant “Procedures for Nonconformity of Oxygen and Nitrogen Gas Pipeline Transmission”.
4. Nitrogen gas pipeline leak contingency plan.



## Practices and Results

Potential manufacturing process and transportation accidents of OUCC are likely to involve chemical leaks, fire, tanker accidents, and explosion, etc.

In response to these risks, 31 contingency plans have been formulated and periodic drills are carried out in accordance with the categories of accidents and the job accountabilities of each department. Four drills are carried out every six

months for the morning, afternoon and night shifts, and full participation is always achieved. We want all employees to be familiar with their individual role and mandate in reaction to an actual emergency, so they may mobilize quickly and organize themselves properly, and get the disastrous condition controlled correctly and effectively and damage and loss minimized. Employees are expected to use good basic common sense and judgment to improve their capacity to respond during an emergency.




### Underground field pipeline leak emergency response mechanism

To prevent the recurrence of a disaster such as the Kaohsiung underground pipeline explosion of 2014, the OUCC responded by immediately strengthening the management of underground pipelines using the "Field pipeline leak emergency response principle". These contingency measures and strategies will reduce the impact of any future accident. We also carry out periodic emergency response drills to ensure the safety of employees and the community. In the event that a pipeline leak is suspected the following countermeasures are started immediately:

1. Notify both material supplying and receiving units to stop delivery immediately.
2. The shift supervisor or Environmental Safety Team will be informed to report to the company supervisors and governmental agency in accordance with the OUCC emergency response reporting procedures.
3. The material supplying/receiving unit of the Plant shall conduct a preliminary leakage isolation and traffic control at the site.
4. The fire department and police will be requested to arrange traffic control and any other necessary measures at the accident site.
5. The material supplying/receiving unit will detect and confirm any pipeline leak using gas detectors.
6. The repair & maintenance unit will be notified to proceed with pipeline repair.
7. Environmental testing will be conducted upon completion of the repair to ensure of no further leaks.

Type	Possible hazard	The OUCC emergency response plan
 <b>EG</b>	1. Thermal kerosene and fuel tank fire 2. EO tank pump fire 3. Reaction zone ethylene oxide reactor fire 4. Sulfuric acid pipeline leak 5. RTO fire 6. Boiler # 6 oil pipeline fire 7. Liquid caustic pipeline leak 8. Abnormal raw materials field pipeline delivery	Thermal kerosene and fuel tank fire contingency plan.
		EO tank pump fire contingency plan.
		Reaction zone ethylene oxide reactor fire contingency plan.
		Sulfuric acid pipeline leak contingency plan.
		EG Plant RTO fire contingency plan.
		EG Plant Boiler # 6 oil pipeline fire contingency plan.
		EG Plant caustic pipeline leak contingency plan.
		EG Plant raw materials field pipeline delivery procedures and abnormality handling.
 <b>Gas</b>	1. Liquid nitrogen leak. 2. Liquid oxygen leak. 3. Sulfuric acid pipeline leak. 4. Hydrogen pipeline leak. 5. Oxygen and nitrogen field pipeline leak. 6. Nitrogen pipeline leak.	Liquid nitrogen tank feeding hose leak contingency plan.
		Liquid oxygen leak tank feeding hose leak contingency plan.
		Gas Plant sulfuric acid pipeline leak contingency plan.
		Gas Plant hydrogen pipeline leak contingency plan.
		The OUCC oxygen and nitrogen field pipeline leak contingency plan.
 <b>EA</b>	1. Liquid ammonia pipeline leak. 2. Ethanolamines tank pipeline leak. 3. Reaction zone ethylene oxide reactor fire. 4. EO reactor pipeline fire.	Liquid ammonia pipeline leak contingency plan.
		EA Plant ethanolamines tank pipeline leak contingency plan.
		EA Plant reaction zone ethylene oxide reactor fire contingency plan.
		EA Plant II reactor EO pipeline fire contingency plan.
 <b>EC</b>	1. Ethylene oxide pump pipeline leak. 2. Reactor fire. 3. Liquid caustic pipeline leak. 4. Sulfuric acid pipeline leak.	EC Plant ethylene oxide pump pipeline leak contingency plan.
		EC Plant reactor fire contingency plan.
		EC Plant sulfuric acid pipeline leak contingency plan.
		EC Plant sulfuric acid pipeline leak contingency plan.
 <b>Storage and transportation</b>	1. Ethylene oxide filling station fire. 2. Transportation accidents.	Ethylene oxide filling station fire contingency plan.
		Transportation accidents contingency plan.
 <b>Polymerization</b>	1. EO pipeline leak. 2. Reactor ethylene oxide pipeline leak.	Pilot plant EO pipeline leak contingency plan. Pilot plant reactor ethylene oxide pipeline leak contingency plan.
 <b>EOD</b>	1. Reactor EO pipeline fire. 2. EOD tank pipeline leak. 3. Methanol tank pipeline leak.	EOD plant reactor EO pipeline fire contingency plan.
		EOD tank pipeline leak contingency plan.
		Methanol tank pipeline leak contingency plan.
 <b>Gas operation</b>	1. Gas tanker transportation accidents.	Gas tanker transportation contingency plan. The OUCC field pipeline leak contingency plan.



## Energy and Climate Change

The issue of global warming and climate change has become a matter of serious concern to industry. The energy supply in Taiwan relies mainly on foreign imports and is derived mostly from fossil-fuel that is more likely to produce excessive greenhouse gas emissions. The occurrence of extreme weather in recent years and an awareness of the need to save energy and reduce carbon emission has become a matter of urgency to both industry and the public.

The company understands that the energy and climate change issues will be even more closely linked to the future business environment and costs. We are therefore paying close attention to it, and, taking the existing and potential impact on our operations into consideration, are formulating appropriate energy saving, carbon reduction and greenhouse gas emission reduction strategy.

### Challenge

The OUCC is in the upstream supply chain of the chemical industry. We well understand that in addition to energy use, the challenge is to reduce the greenhouse gas emission by finished product by improving process energy efficiency and cooperating with suppliers and customers from the product life cycle perspective.






Another challenge is the R&D of products that have the environmental qualities to meet customer needs as well as to balance technology innovation and cost efficiency. Externally, it challenges both our own carbon footprint and that of our customer. Internally the challenge lies in how to improve plant energy management.

## Disclosure on Management Approach

To ensure that we can control and keep track of the energy consumption status in the OUCC plant, we started plant greenhouse gas inventory in 2014 in accordance with the ISO14064-1 inventory system. We also plan to introduce the ISO14064-1 greenhouse gas management system in 2015 and have our inventory data verified by a public verification institution. The main purpose being to establish a systematic database for the energy consumption and greenhouse gas emission of the Lin Yuan production base.

We are paying close attention to the industrial energy-saving and carbon reduction requirements imposed by the domestic authorities and have discussed OUCC carbon management and policy through the CSR Committee. We also request that each plant business unit should shoulder the responsibility for developing and implementing carbon management action plans and also to regularly disclose performance in carbon management and greenhouse gas emission for publication in the annual CSR report.

The OUCC energy consumption

GRI indicator	Unit	2013	2014
Gasoline 	Kilo-Liter	1,058	<b>1,331</b>
	Gallon	278	<b>350</b>
	GJ	35	<b>44</b>
Fuel 	Kilo-Liter	1,936	<b>2,959</b>
	Gallon	509.47	<b>778.68</b>
	GJ	73.36	<b>112.13</b>
Diesel fuel 	Kilo-Liter	393.5	<b>365.9</b>
	Gallon	103.55	<b>96.29</b>
	GJ	14.29	<b>13.29</b>
Power 	kWh	313,297,624	<b>320,765,350</b>
	GJ	1,127,871	<b>1,154,755</b>
Steam 	ton	953,263	<b>1,003,444</b>
	GJ	318,390	<b>335,150</b>
Total energy consumption	GJ	1,446,383.75	<b>1,490,074.76</b>
Energy intensity (Energy consumption / Number of Employees)	GJ / person	3,857.02	<b>3,840.40</b>



### Greenhouse gas emission (summary)

	Unit	2013			2014		
		Lin Yuan Plant	Taipei Head Office	Subtotal	Lin Yuan Plant	Taipei Head Office	Subtotal
Scope 1	t-CO <sub>2</sub> e	53,229	2.39	53,231	<b>77,236</b>	<b>3.01</b>	<b>77,239</b>
Scope 2	t-CO <sub>2</sub> e	245,142	53.79	245,196	<b>236,544</b>	<b>43.69</b>	<b>236,588</b>
Total emission	t-CO <sub>2</sub> e			298,427			<b>313,827</b>
Number of employees	Person			375			<b>388</b>
Emission intensity	t-CO <sub>2</sub> e / Person			795.8			<b>808.8</b>
Emission coefficient sources	remark	1. EPA GHG emission coefficient management list 6.0.1 version 2. Power conversion CO <sub>2</sub> emission equivalent is calculated in accordance with the annual electricity emission coefficient published by the Department of Energy.					
Global warming potential (GWP value)	remark	IPCC The 2 <sup>nd</sup> Assessment Report in 1995					
Emission collection method	remark	Operational control					

Note: 1. The self-inventory data for 2013.

2. The data received SGS-Taiwan certification in 2014.

3. Since EO catalyst is in the last phase in 2014, the efficiency decreased which caused more CO<sub>2</sub> emission than the catalyst start phase in 2013.



### Greenhouse gas emission (Lin Yuan Plant)

	CO <sub>2</sub> emission	2013	2014
Scope 1	Process, fuel	53,229	<b>77,236</b>
Scope 2	Power	168,534	<b>175,276</b>
	Outsourcing steam	76,608	<b>61,268</b>
	Subtotal	245,142	<b>236,544</b>
Emission coefficient sources	Remark	EPA GHG emission coefficient management list 6.0.1 version	
Global warming potential (GWP value)	Remark	IPCC The 2 <sup>nd</sup> Assessment Report 1995	
Emission collection method	Remark	Operational control	
	Total ( t-CO <sub>2</sub> e )	298,371	<b>313,780</b>

Note: 1. The self-inventory data for 2013.  
 2. The data passed SGS-Taiwan certification in 2014.



### Greenhouse gas emission (Taipei Head Office)

	Unit	2013	2014
Scope 1	Official car fuel consumption	L	<b>1,331</b>
	Official car CO <sub>2</sub> emissions	t-CO <sub>2</sub> e	<b>3.01</b>
Scope 2	Power consumption	kWh	<b>83,705</b>
	CO <sub>2</sub> emission from electricity consumption	t-CO <sub>2</sub> e	<b>43.69</b>
	Total	t-CO <sub>2</sub> e	<b>46.71</b>

Note: 1. The self-inventory data for 2013 and 2014.  
 2. Fuel consumption is converted in accordance with the annual average unit price of the "Oil price data management and analysis system" of the Department of Energy MOEA Office.

## Reducing the Impact of Transportation on the Environment

In response to the need to save energy and reduce carbon emission, we require employees at the Lin Yuan Plant, the main manufacturing base of the OUCC, to take the company shuttle bus, or to join the car pool system for commuting, to cut down on the use of vehicles and indirectly reduce the emission of greenhouse gases.

In addition, we are reducing carbon emission by cutting down on travel between Taipei and Kaohsiung and increasing the use of video conferencing. The monthly management meeting is a good example: Twelve meetings were held in 2014 and ten people per meeting would travel on Taiwan High Speed Rail "Taipei – Zuoying" generating 12.91 kg of CO<sub>2</sub> emission per person (based on the carbon footprint announced by HSR). The CO<sub>2</sub> reduction reached was 12.91 x 10 persons x 12 times = 1,549kg, as a contribution to the effort to ease global warming.

Energy saving project	Improvement base	Improvement content	Effectiveness	Savings
EA2	Steam consumption reduced by 20% and production capacity (increased from 40,000 tons to 60,000 tons) to enhance competitiveness.	Ammonia used in processing increased from 45% to 90% to react with EO. Renew equipment in the reaction and recycling areas.	Steam consumption reduced by 20% and production capacity increased by 50%.	Steam consumption saving was 20% per product ton.
EO expansion project and CO <sub>2</sub> recovery	Catalyst efficiency up from 83.7% to 86.16%.	A new generation of high efficiency catalyst used to reduce the amount of CO <sub>2</sub> generated.	Catalyst efficiency up from 83.7% to 86.16%.	The average CO <sub>2</sub> output reduced from 17T/hr to 14T/hr.

Note: 1. EA2 project savings data is an internal estimate.

2. CO<sub>2</sub> emission is calculated by the average catalyst efficiency.



Energy savings result	Unit	2012	2013	2014
Calculation baseline year	Year	2011	2012	2013
Amount invested for process improvement	NTD	304,000		
Energy consumption reduced by process improvement	GJ	509		
Amount invested for equipment improvement or renewal	NTD		390,000	859,000
Energy consumption reduced through equipment improvement or renewal	GJ		213	3,763
Total investment amount for energy saving	NTD	304,000	390,000	859,000
Total energy-saving	GJ	509	213	3,763



### EA Plant Low Water Revamp

EA# 2 original design used 45% ammonia solution and energy consumption was high. After revamp, it was changed to a low water usage process to reduce water energy consumption.

#### Expected benefits

An EA per ton saving of **40%** in the cost of steam and the investment can be recovered in six years.

A saving of NT\$ **36 million** per year.

## Water Resource Management

The protection of water resources and the development of water-saving technology has become an issue of great importance due to the seriousness of global climate change. Although with abundant rainfall, Taiwan suffers from water supply instability and is often faced with water shortage due to its terrain formation.

The water for the OUCC Lin Yuan Plant comes from the Fengshan industrial water Reservoir. To fully utilize water resources, an investment was made in a water demineralization system many years ago to recycle

process wastewater for the cooling tower. Currently, further investment is planned for the recovery of cooling tower wastewater. Furthermore, an electrochemical and Electrodialysis Reverse measures for reducing the hardness of the water and for the recycling and reuse of wastewater for cooling tower is under consideration.

The OUCC will continue to face the challenges involved in the protection of the environment and water resources and promote improvements in our processes and technologies and find the best water management program to fulfill our corporate social responsibility.



### Electronic signature for archives

To facilitate the countersigning of documents and forms of the management from both Taipei office and Lin Yuan plant, the electronic signature system has been developed with the following benefits:

1. The heads of departments can sign documents and forms online and this not only saves paper, but also saves time and improves efficiency.
2. Files that are prepared and stored in the document database are secure and cannot be easily misplaced. The system provides an intelligent search engine for indexes and queries as well as allowing inter-departmental file access, a process that is easy and time saving.
3. The electronic sign-off process is transparent and readily accessible for follow up approval, to track progress and to allow comments from other department heads.
4. The file archiving system uses a "one-time random password" file protection technology to control access for reading, printing, saving as PDF, and saving as the original. It also allows a record of file preparation, revision, deletion, and reading. The file watermark can be used to effectively remind employees to pay proper attention to document and data security.



## Environment – Wastewater treatment & discharge

The chemical plant wastewater contains incompletely reacted raw material or solvents used in production. Any wastewater or liquid waste produced in the manufacturing process that has not been properly treated would be a serious hazard should it be discharged into the environment.

In this regard, the OUCC abides by the 61-WI-278 "Procedure for OUCC Production Process Wastewater Discharge", stipulating emission limits of COD<100ppm and SS<30ppm. The total treated wastewater is piped into the Industrial Park Joint Wastewater Treatment Plant. The initial rainfall (about 30 minutes) is collected in a storage tank and then passed into the wastewater treatment plant for further processing.

### Water usage statistics

	Unit	2012	2013	2014
Lin Yuan Plant	M <sup>3</sup>	1,722,773	1,708,523	<b>1,912,869</b>
Taipei Headquarters	M <sup>3</sup>	1,007	936	<b>1,602</b>
Total	M <sup>3</sup>	1,723,780	1,709,459	<b>1,917,471</b>

Note: Taipei Headquarters 2012~2013 estimated from the unit price of water. The 2014 figure is based on the water bill data.

### Wastewater discharge

Classified by water quality and discharge destination.	2012	2013	2014
The total amount of wastewater discharged m3/year.	584,875	624,538	<b>686,885</b>
Discharge destination	Piped into the joint wastewater treatment plant.		
Water quality and discharge	In line with the Effluents Standard / activated sludge treatment method.		
Standards, methods, and assumptions	Joint wastewater treatment plant limit.		

Water consumption increased at the end of 2012 when the new plant came into operation, so did the amount of wastewater. On-going plant construction in 2014 resulted in more water being consumed at the construction site and by contractors.

# Sustainable Partnership



A good partnership plays a vital role in the OUCC operation that includes employees, suppliers, and the residents of the community. Enterprises that seek sustainable development must listen to the voice of partners, substantiate care, and conduct the appropriate communications. We believe that a sustainable partnership will help the OUCC move towards a better future, develop better products, and construct a safe and stable work environment.

A focus on compliance and response to customer requests is the main OUCC operational objective and the company works incessantly to enhance participation of the stakeholders, provide the correct information to the people who care about the OUCC and those we care about. We maintain excellent interactive relationships, continue to optimize manufacturing processes and plant environmental safety and health, and strengthen participation in all social activities.

## Employees

The OUCC is committed to the creation of a healthy and safe workplace, the development of an appropriate and adaptable staff training program and the construction of a fair and free work atmosphere with sound welfare, work environment, organization and culture cultivation. We make sure there is a balance between work and non-working time for our employees.

Our staff management system is based firmly on the labor laws. We have established an appropriate management system. Employees are assigned to the most suitable job positions depending on their technical and functional competence. There is no discrimination based on gender, religion, nationality, political or personal belief, or ethnicity with respect to employment, salary, performance evaluation, promotion, education and training, or personal benefits.

We inform the employees about company operating results and conditions using internally published documents or regular formal or informal departmental meetings. The information transparency between employers and employees is ensured and timely.



## Hiring of Employees

The OUCC arranges recruitment in accordance with application made by the individual department and approved by the President. Candidates are interviewed by the HR and the department that made the request. Child labor is strictly prohibited and we comply strictly with the relevant labor laws and regulations and protect the rights of all employees.

The work involved in the chemical industry can be physically taxing and in persistency, so it is important that workers at the production sites be physically fit. This means that the percentage of male employees (including direct and indirect employees) is higher than that of female employees. However, the OUCC values and cares about the development of female employees and those with excellent performance are promoted in accordance with the same principles applicable to male employees.

### OUCC Employment (2012-2013)

Year		2012		2013	
Total Number of employees		384		375	
Domestic employees	Male	354	92.19%	343	91.47%
	Female	30	7.81%	32	8.53%
Direct labor	Male	82	21.35%	83	22.13%
	Female	0	0	0	0
Indirect labor	Male	272	70.83%	260	69.33%
	Female	30	7.82%	32	8.54%
Permanent contract	Male	353	91.93%	342	91.2%
	Female	30	7.81%	32	8.53%
Temporary contract	Male	1	0.26%	1	0.27%
	Female	0		0	
Percentage of employees aged under 30 (%)	Male	32	8.33%	18	4.80%
	Female	2	0.52%	3	0.80%
Percentage of employee aged 31 – 49 (%)	Male	232	60.42%	231	61.60%
	Female	21	5.47%	20	5.33%
Percentage of employees aged over 50 (%)	Male	90	23.44%	94	25.07%
	Female	7	1.82%	9	2.40%

Note: 1. "Direct labor" refers to plant shift employees.

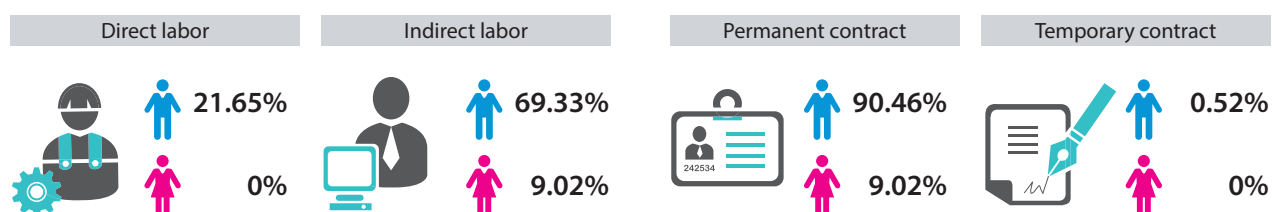
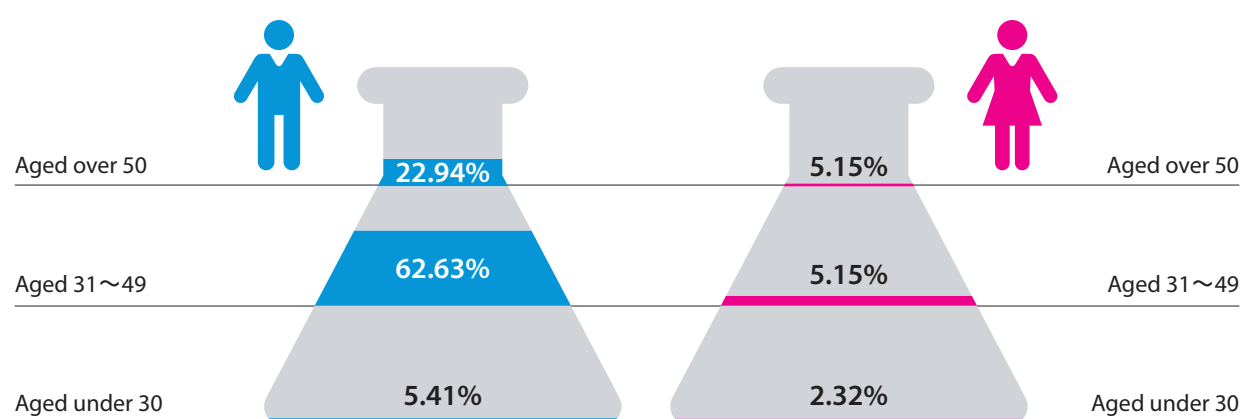
2. "Indirect labor" refers to plant non-shift employees.

3. "Permanent contract" refers to non-contractual employees who are hired officially.

4. A "Contract employee" is an employee contracted for a certain period, for example, consultants or commissioned managers.



## OUCC Employment (2014)



The OUCC headquarters is in Taipei City and the factory is in the Lin Yuan Industrial Zone of Kaohsiung County. To promote and increase employment opportunities for the region, close to 30% of the employees at the Lin Yuan Plant are local residents. We take direct action to support and encourage local employment.

### Percentage of Kaohsiung plant employees from Lin Yuan area

Job Title	Number of persons		Percentage	
	Lin Yuan	Non-Lin Yuan	Lin Yuan	Non-Lin Yuan
Engineer / Manager and above	9	154	2.57%	44.0%
Operation-Foreman	5	25	1.43%	7.14%
Operation-Operator	88	69	25.14%	19.71%
Total	<b>102</b>	<b>248</b>	<b>29.14%</b>	<b>70.86%</b>

There were **388** employees on the payroll in **2014**, including **35** females that accounted for **9.02%** of the total employees. The majority of the company's employees are of an age where most of their children have grown up and so there were no employees applying for parental leave in 2014.

Year	2014				
	Male	%	Female	%	Total
Number of employees eligible for parental leave in 2014	33	86.84%	5	13.16%	38
Number of employees who applied for parental leave in 2014	0		0		0
Number of employee eligible for reinstatement in 2014	0		0		0
Number of employees reinstated in 2014	0		0		0
Reinstatement rate					
Number of employees reinstated in 2013	0		0		0
Number of employees reinstated in 2013 and who worked for 1 year	0		0		0
Retention rate					

Note: 1. The "Number of employees eligible for a parental leave in 2014" is based on the number of employees who had applied for a maternal or parental leave within three years (2012-2014).  
 2. The "Number of employee eligible for reinstatement in 2014" includes those employees who applied for reinstatement in 2012 to be reinstated in 2014, applied in 2013 to be reinstated in 2014, and applied in 2014 to be reinstated in 2014.  
 3. The "Number of employee reinstated in 2014" includes employees who applied in 2012 and were reinstated in 2014, applied in 2013 and were reinstated in 2014, and applied in 2014 and were reinstated in 2014.  
 4. The "Reinstatement rate in 2014" = Number of employees reinstated in 2014 / Number of employees to be reinstated in 2014  
 5. The "Retention rate in 2014" = Number of employees reinstated in 2013 and who worked for 1 year / Number of employees reinstated in 2013

Eleven employees who were over age **50** were approved for resignation or retirement in **2014**, of which, **10** applied for voluntary retirement (91% aged over 50 retiring) and **1** employee was approved for resignation (9% aged over 50 resigning).

### Employee turnover and turnover rate

Year		2012		2013		2014	
Number of resignations		18		10		18	
Sex	Male	18	4.96%	9	2.40%	17	4.38%
	Female	0	0%	1	0.27%	1	0.26%
Age	< 30	2	11.11%	2	20.0%	0	0%
	31~49	10	55.56%	3	30.0%	7	40.0%
	> 50	6	33.33%	5	50.0%	11	60.0%

Note: 1. Employee turnover rate by gender is calculated as follows: Total number of employees quit (including retirement) / Total number of employees.  
 2. Total Number of employees: 384 in 2012; 375 in 2013; and 388 in 2014.  
 3. The age range of employees is based on the total annual turnover rate.

### New recruitment

Year		2012		2013		2014	
Number of new employees		10		4		31	
Sex	Male	9	2.34%	4	1.07%	27	6.96%
	Female	1	0.26%	0	0%	4	1.03%
Age	< 30	0	0%	0	0%	12	38.71%
	31~49	10	100%	2	50%	17	54.84%
	> 50	0	0%	2	50%	2	6.45%

Note: 1. The new recruitment rate by gender is calculated as follows: Number of new recruits / Total number of employees.  
 2. Total Number of employees: 384 in 2012; 375 in 2013; and 388 in 2014.  
 3. The age range of employees is based on the total number of new recruits during the year.

### Number of disabled employees recruited

Year		2012		2013		2014	
Number of employees		3		3		3	

## Employee Ethical Behavior

We value the ethics and integrity of our employees who are requested to sign a “Letter of Consent” when joining the company. This document becomes part of their personnel record and is a declaration by the employee to abide by the company rules and regulations and also those of personnel management, as well as a commitment for non-disclosure of the company business confidentiality. The document content is published within the company and is available for examination and reference by all employees.

### 1. Code of Conduct and Code of Ethics:

Work rules include: (1) General rules (2) Employment (3) Service, holidays, days off, special leave (4) Request for leave (5) Salary (6) Year-end bonus (7) Safety, health, welfare, pension, and occupational accident compensation (8) Discipline (9) Performance evaluation and reward & penalty (10) Resignation, termination, and severance (11) Retirement (12) Annex.

### 2. Confidentiality commitments:

(1) the definition of confidential information (2) confidentiality obligations (3) the legal effect of breach of contract and breach of contract liability (4) effect after the termination of employment (5) The transfer of rights (6) the applicable law and jurisdiction.

## Comprehensive Staff Training

Talent is the most important asset of the OUCC and is also the basis of sustainable development. The key to nurturing human resources is to help employees strengthen their technical capacity through practice and work training while encouraging the enthusiastic acceptance of challenges at work to aggregate and inspire new work value.

The OUCC upholds the values of “sincerity, diligence, thrift, prudence, and innovation” to establish an appropriate “talent selection, incubation, application, and retention” system in response to development of the industrial environment.

To achieve these objectives, the OUCC has implemented a range of appropriate training programs for employees from the beginning. There is an extensive education and training program available that allows employees to build up mid- and long-term technological capabilities together with those accumulated continuously from on the job training and sharing. Both help them find the stage to demonstrate their expertise.

In terms of nurturing talent, the OUCC provides professional training related to business management and plant management, and actively cultivates participation in the relevant professional and technical courses. This stimulates managers and potential managers and helps them improve the quality of manpower, to create a win-win situation for employees and the company by fulfilling all the operational needs.

Type	Training content
New recruits	The Administration Office introduces the history of the company and work rules / departmental introduction / internal training of the specific department.
General staff	Organization internal training / mandatory training / professional training
Management staff	The company will arrange management training, for example: for leader selection and nurturing programs / in basic finance and accounting / talent management for furthering performance.

Note: General staff (team leaders and subordinates) and management staff (team leaders and superiors).

New recruits at the OUCC will receive general training from the HR Department and will then be trained by personnel of the same department where they will be positioned. Professionals with all the necessary qualifications will help to train the new recruits and assist them in obtaining the relevant licenses and certificates.

Nature of training	General staff	Management staff
Content of On-The-Job Training	The professional certificate and permit of the first pressure container, high pressure gas specific equipment, anoxic operation supervision, forklift truck, fixed crane, specific chemical material, boiler, and so on.	Leader selection and nurturing programs / basic finance and accounting / talent management for furthering performance

### Employee training hours and input

Gender		Female			Male			Total Average hours
Training	Unit	Total training hours	Total number of persons	Average training hours	Total training hours	Total number of persons	Average training hours	
2012	hour	270.5	30	9.02	11,022	354	31.14	29.41
2013	hour	428	32	13.38	11,198	343	32.65	31.00
<b>2014</b>	<b>hour</b>	<b>170</b>	<b>35</b>	<b>4.86</b>	<b>14,408</b>	<b>353</b>	<b>40.82</b>	<b>37.57</b>

### Average training hours by job title

Job title	Unit	2012		2013		2014	
		Male	Female	Male	Female	Male	Female
General staff	hour	3,939	136	9,612	292	<b>5,822</b>	<b>176</b>
Management staff	hour	612	134.5	1,027	277	<b>414</b>	<b>14</b>
Total average training hours	hour	4,551	270.5	10,639	569	<b>6,236</b>	<b>190</b>

Note: General staff (team leaders and subordinates) and management staff (team leaders and superiors).

### The OUCC training investment statement

	Unit	2012	2013	2014
Total employee training amount	NT\$1 million	0.70	0.76	<b>0.94</b>
Total employee training hours	Hour	11,292.5	11,626.0	<b>14,578</b>
Total number of employees	Person	384	375	<b>388</b>
Total employee training amount / Total Revenue	%	0.0057%	0.0055%	<b>0.0076%</b>
Average training amount per employees	NT\$	1,824.2	2,018.5	<b>2,435.3</b>
Average training hours per employees	Hour	29.41	31.00	<b>37.57</b>

## Employee Benefits

The OUCC has Employee Welfare Committee, which in addition to the lawful benefits, arranges welfare activities for the employees that include an annual dinner, scholarship grants, subsidies for activity, birthday, wedding, funeral, childbirth, and monetary gifts for three public festivals, and the year-end, as well as group insurance. The welfare committee also organizes employees annual tours and other activities, in addition to the health checkups, to keep balance of the physical and mental health of employees.

According to Article 34 of the OUCC Incorporation, annual earnings are subject to the payment of profit-seeking enterprise income tax after adjustment has been made for any previous losses incurred over the years. If annual earnings remain after income tax, the balance of previous losses over years. Then, the remained earnings after appropriation of 10% legal reserve and surplus reserve plus any accumulated undistributed earnings of previous years is available for distribution. However, part of the earnings can be reserved, depending on business conditions, and the remaining earnings should be distributed proportionally, however, 2% of the remaining earnings should be used for employee bonuses.

The OUCC employee benefits expenses

Year	Unit	2012	2013	2014
Pensions	NT\$	22,300,944	21,636,447	<b>23,086,913</b>
Insurance expenses	NT\$	26,961,148	29,292,739	<b>30,258,237</b>
Employee bonuses	NT\$	21,914,302	21,914,302	<b>18,261,918</b>
Special bonuses	NT\$	24,254,224	24,271,566	<b>19,938,495</b>
Shuttle bus	NT\$	7,789,263	11,028,307	<b>10,957,465</b>
Employee health checkup	NT\$	1,146,000	1,425,572	<b>1,121,200</b>

Note: Employee benefits include regular appropriation (for example: pensions, insurance, business transportation, and private healthcare), as well as other employee subsidies, such as: housing subsidies, interest-free loans, public transport subsidies, educational grants, and dismissal subsidies, but does not include education and training, protective equipment, and staff costs or expenses directly related to the job.





## Social Activity

The OUCC does not have a large number of employee but they are as close as family. Our employees develop all kinds of associations for exercise and stress relief. There are currently 20 social groups that receive annual grants from the company and a total of NT\$200,000 was provided in grants (to 19 social groups) in 2014.

When a social group is formed the Director of the group files an application and a prospectus for annual group activity and a budget, a group members list, the purpose of the new group, and an introduction of the social group to the Employee Welfare Committee for a resolution. Grants are provided to the officially established social groups.



## Potential Personnel Training

A potential talent and leader nurturing mechanism has been implemented to search for competent successors for existing supervisory and management posts. Promising personnel selected are encouraged to take part in management seminars and management master programs in domestic universities to enhance their management capacity.

The nurturing record of job rotation, training which aim to equip the personnel with comprehensive operation familiarity is filed with HR. Job rotation and promotion programs to enhance education and training has facilitated the cultivation of competent successors for managerial and supervisory posts.



The OUCC has formulated the "Rules Governing the Payroll" as a reference for determining personnel remuneration and salary increases. To keep the salary competitive, the Company studies the industry pay levels and reviews regularly of its remuneration policy. According to the "Rules Governing the Payroll:"

**A. Annual salary adjustments are approved in accordance with operating results and industry salary adjustment.**

**B. Staff performance evaluation is as follows:**

1. **Excellence A - 90~100 points** Outstanding performance with special tangible or intangible contribution to the company (evidence enclosed)
2. **Excellence AB - 85~89 points** Outstanding performance
3. **Above average B - 80~84 points** Performance in line with operational need (above average)
4. **Average BC -70~79 points** Performance in line with operational need
5. **Below average C - 69 points or less** Poor performance, not in line with operational need, no pay raise, job transfer, demotion, or dismissal. (evidence enclosed).

**C. Principles for annual staff performance evaluation are separately prescribed and depend on market conditions. The performance evaluation criteria include:**

1. Employee job performance.
2. Employee job responsibility.
3. The competitiveness of the current employee salary in the salary market.
4. Job performance and salary relationship of employee and subordinates, supervisors, and colleagues.
5. Budget.

## Performance Evaluation

The OUCC has clear specifications for employee performance evaluation and employee incentive which are defined to substantiate the development of talent and decide pay differentiation. To maintain both equity and employee development, managers at all levels will discuss daily performance with the staff during the evaluation period.

The OUCC employee performance evaluation system includes: probation evaluation, routine evaluation, project evaluation, and annual evaluation. New recruits are evaluated for qualification after a 6-month probation period to confirm their competence.

All employees (including the President) are evaluated annually after a one year term of employment. Performance is evaluated every year and includes attendance, leadership skills, the ability to work, work performance, and so on. In addition, any particular merits or demerits, should be reported to the Personnel Evaluation Committee and to the President for approval before commendation is given, or disciplinary action is taken.

## Pension Mechanism

We have implemented an employee retirement plan in full compliance with the "Labor Standards Law" and "Labor Pension Act." The sound financial system of the OUCC ensures that retired employees will have a guaranteed pension and will be able to work for the company and develop a career without worrying about their future financial security.

The rules for employment, service, performance evaluation, incentive and disciplinary act, promotion, and retirement pension are all set out in detail in the "Work Rules" of the OUCC. The Labor Pension Committee is set up according to the Law and a pension reserve is appropriated in an amount equivalent to 10% of the total monthly salary in accordance with the employee retirement plan and deposited in a trust fund account at the Bank of Taiwan as per government regulations. Pension reserve committee meetings are held periodically to review pension appropriation, investment and implementation to protect the interests of the employees. In addition, for those employees who have chosen the Labor Pension Act, an amount equivalent to 6% of the monthly salary respectively for each employee is deposited in a personal account with the Bureau of Labor Insurance to safeguard the interests of the employees.

When the Oriental Petrochemical (Yangzhou) plant was being constructed in Yangzhou China in 2008, we took advantage of some of our mentally and physically fit professional retirees whose experience and knowledge made their contributions as consultants invaluable to the project.

## Smooth Communication and the Human Rights Appeal Mechanism

The OUCC has comprehensive management rules and regulations designed to ensure fair and reasonable treatment of all personnel. Employees can express their opinions and discuss and solve differences at labor-management meeting which is held from time to time. Employees and employer are able to present views in the spirit of coexistence and by friendly interaction maintain harmonious labor relations for the common good.

Employees can discuss the matter of salary and benefits at these labor-management meetings or by negotiations through the union. The main issue reflected by the employees in 2014 was "salary bracket adjustment" and an "annual salary raise proposal." In this regard, the President of the company will occasionally explain the operation status and vision of the company to the employees. Detailed explanations and the minutes of such meetings are published to ensure transparency of information.

The OUCC abides strictly by the rules for gender equality as set out in the "Act of Gender Equality in Employment," and the "Prevention of Sexual Harassment," and has established a "Sexual Harassment Complaint Handling Mechanism" to prevent workplace violation and sexual harassment. The company is vigorous in its advocacy and promotion of the anti-gender discrimination policies and acts.

The document system is explained and made available to employees in an education and training course. The relevant human rights training include "Work Rules," "Rules Governing Personal Information," "Rules Governing Employee Grievances," and "Act of Gender Equality in Employment and Sexual Harassment Prevention, Grievance, and Discipline."

The OUCC treats all their employees fairly and complies strictly with all the relevant labor laws and human rights regulations. The OUCC applies the "Rules Governing Employee Grievance" in response to any human rights

issues. A contractors grievance window has been established to provide a smooth channel for employee grievances to be dealt with by the relevant facilities:

1. Regulate labor conditions and relevant regulations in accordance with government labor related laws and regulations.
2. Provide open, fair, and impartial job opportunities to all applicants in accordance with the "Employment Service Act."
3. Abide strictly by the "Rules Governing Employee Grievance" and establish a smooth grievance channel.
4. The "Personnel Evaluation Committee" has been established to administer the "Rules Governing Personnel Evaluation" and matters that involve commendation or disciplinary action will be discussed and decided by the departmental heads, then approved by the President in accordance with the "Work Rules."
5. The "Act of Gender Equality in Employment and Sexual Harassment Prevention, Grievance, and Discipline" is stipulated to protect employee rights to work and maintain gender equality in employment. The real promotion of the spirit of gender equality must abide and a sexual harassment-free working environment must prevail. All the appropriate preventive, corrective, and disciplinary action against sexual harassment must be present and all employees must have unimpeded access to a clear grievance channel to ensure their best interests.
6. The "Rules Governing Personal Information" have been clearly set down for the preservation of confidentiality and the management of personal information, and also to ensure the safety and legality of the OUCC collection, processing, usage, and international transmission of personal information.
7. The company will establish a Contractors grievance window on the website to provide a smooth channel for their complaints.

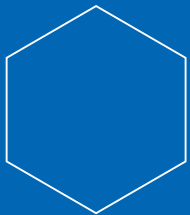
There were no complaints about human rights in 2014. However, the company was fined as a result of an appeal to the Labor Bureau of Kaohsiung City Government in

2011 alleging the company had discriminated against an employee for union membership. In defense of the company's reputation and to prove no discrimination had occurred an appeal was lodged with the High Court. The objection to the administrative litigation was

overruled by Kaohsiung City Government regarding the matter. The high court overruled the original sentence in December 2014 and the case is currently in the re-trial process in the district court.

## Establishment of Unions and Protection of the Right to Work

The OUCC supports human rights and implements a fair and reasonable attitude towards the staff taken as a whole. The risk of the OUCC operation violating human rights is low. Although there is no minimum period of time defined for reporting any major changes in business operation, there are many effective channels by which employees may be informed of such changes. Employees are encouraged to question any changes made to their job responsibilities. Current security guards are OUCC employees, and all the OUCC security guards are informed of the "Work Rules" and the rights and obligations of employees, during their education and training courses. These regulations can also be found on the company website.



### The OUCC Union

The OUCC Union was established in 1988 to protect the interests of members, increase their knowledge and skills, and promote the manufacturing business for the purpose of improving members working conditions and lives. Union members constitute 71.2% of the employees. Union action on behalf of the employees resulted in salary bracket adjustment and annual pay increases in 2014. The salary bracket has also been adjusted in the current year.

In the interest of occupational safety and health, 42% of the membership of the health and safety committee are labor representatives. All health and safety issues are regulated by the "Labor Safety and Health Committee", but not the minimum period of time for giving notice.

The percentage of the health and safety issues reached in the official agreement signed with the Union

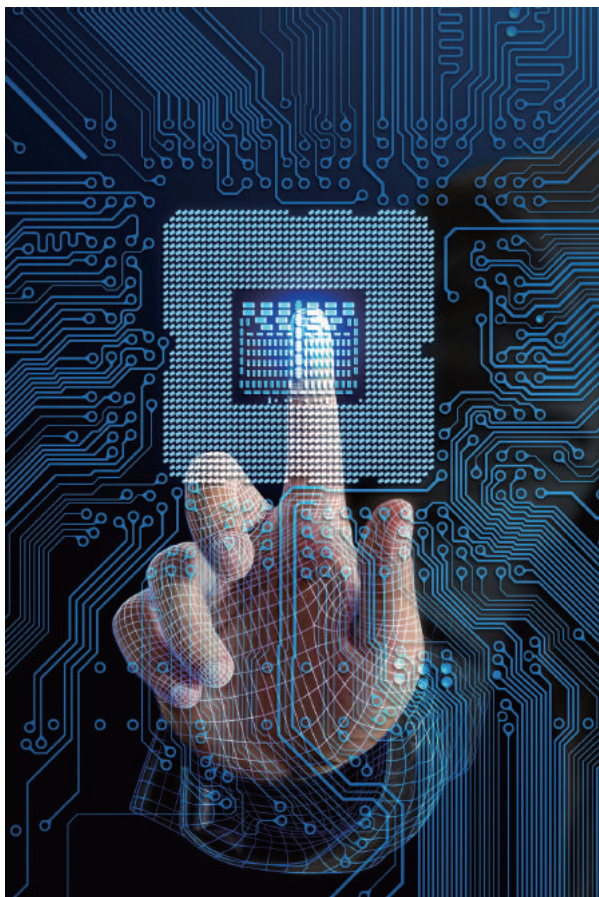
Does the official agreement signed with the Union contain health and safety issues?	Remark	A collective agreement is included in Chapter IX Safety and Health and Chapter X Occupational Accident Compensation		
If the answer is "YES," what is the percentage of the health and safety issues reached in the official agreement?	%	2012	2013	<b>2014</b>
		10.42	10.42	<b>10.42</b>

## Customers

The OUCC upholds the values of “sincerity, diligence, thrift, prudence, and innovation” to maintain a stable and good relationship with their customers. Customer opinion is highly valued and regular customer satisfaction surveys are carried out. For a contract review or change, the related product must be presented in advance to ensure that the company can actually meet the customer's requirements.

### Customer Privacy Protection

The OUCC assumes responsibility for the protection of customer privacy. All the customers' intellectual property rights are held in the strictest confidence to ensure customer product competitiveness.



### Customer Satisfaction Management

In order to ensure product quality relevance, sufficiency, and effectiveness, the OUCC convenes a quality management meeting every six months to review the quality of management, customer feedback, the quality objective process performance, product compliance, the internal/external audits and nonconformity correction, resource status and demand, as well as a follow up of quality corrective and preventive actions to be resolved by the Audit Committee.

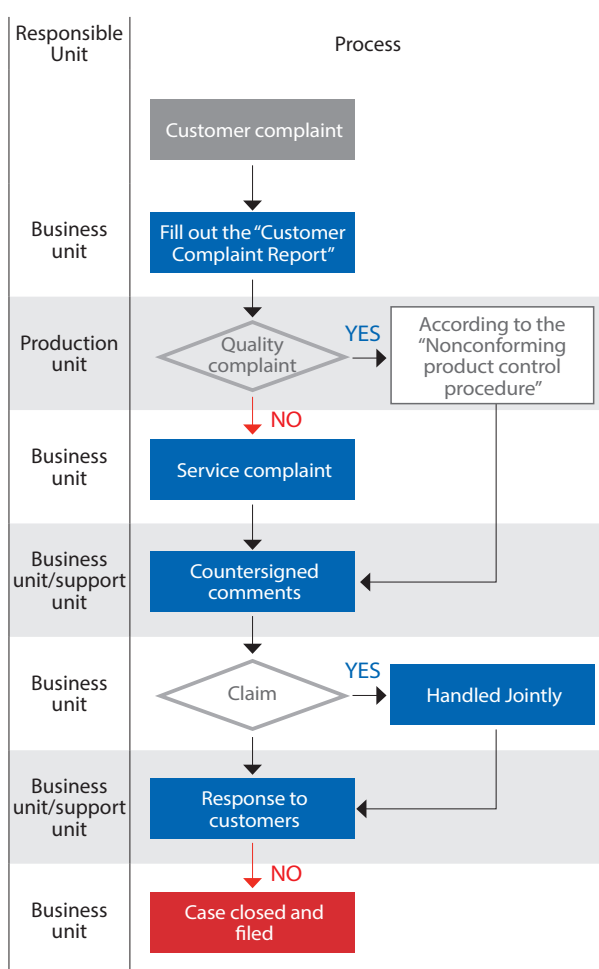
In the event of a customer complaint, a reply must be made to the customer within three working days. The content of the complaint and any loss to the customer must be accurately documented, the root cause analyzed, and corrective or preventive action or continuous improvement must be implemented. The OUCC uses the following procedures to maintain a good customer relationship:

1. Occasional customer visits
2. An annual customer satisfaction survey
3. Occasional distributor meeting (sales)

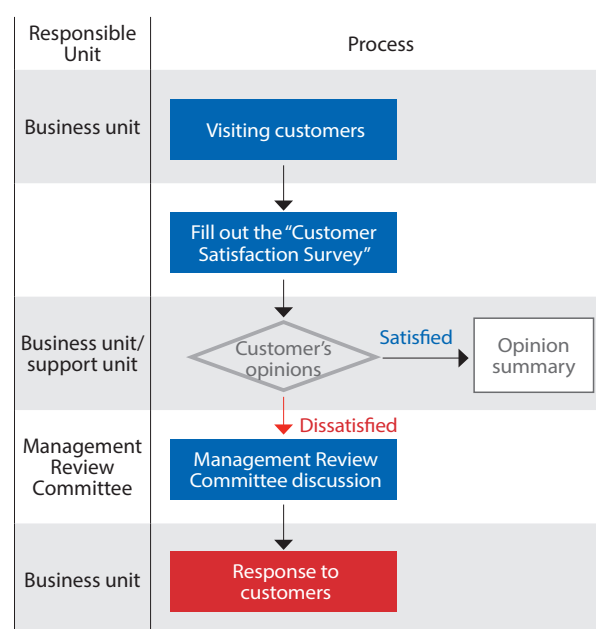
A business unit receiving a customer complaint should respond immediately and complete a “Customer Complaint Handling” form with the complete details and date of occurrence, name, tanker number, and delivery number.

The 2014 EG/EO Customer Satisfaction Survey attained a score of 32.3 points (a perfect score would be 35 points) and the survey content including: Service, delivery, quantity, accuracy, quality, packaging, transport and overall satisfaction.

## Customer Complaint Process



## The OUCC Customer Satisfaction Survey Process



## Suppliers

The success of the OUCC business operations relies to a considerable extent on the support of the suppliers. Involvement of the suppliers is necessary for us to maintain sustainable development as well as the continuous trust of the community and our stakeholders.

Our CSR awareness is high and the challenges, in addition to continuing to optimize supplier management processes, are to meet the demands of our customers and supply them with quality products. We also have to ensure that our suppliers' treatment of their labor, behaviour towards the environment, and business integrity meet the expectations of society through our supplier screening mechanism.

### Contractor Management

The OUCC has internal "Rules Governing Suppliers". The OUCC believes that the company should provide a safe working environment for employees, work together with the suppliers to fulfill corporate social responsibility, and establish a higher environmental protection, safety, and health standard for the industry taken as a whole.

We take the initiative with our suppliers with respect to environmental matters, as well as safety and health issues. We also encourage them to enhance their management in breadth and depth. We have provided grants in accordance with the corporate internal management approach in the hopes of integrating all the supply chain partners in the fulfillment of corporate social responsibility. We work closely with our suppliers to strengthen these partnerships and have started off with social welfare and participation in social activities.

The OUCC is very conscious of the danger of disaster. To instill an appreciation of this ever existing hazard the company has prepared the "Contractor Work Safety Rules" for contractors carrying out construction or repair & maintenance on the plant premises. It is a must that

all the contractor's workers have the necessary work safety licenses and certificates and are qualified to carry out the work they are assigned. Contractors are also required to sign the "Contractor's Operation Safety Commitment to the OUCC while Working in the Plant" so they fully understand the rules for working on the OUCC plant premises.

### Screening and Evaluation

To strengthen the awareness and execution of CSR in respect of the suppliers, we have worked closely with both our suppliers and contractors, on five matters: labor, health and safety, environment, management, and business ethics.

Suppliers must comply with the petrochemical industry code of conduct and the OUCC "Environmental Safety and Health Policy." The OUCC uses a supplier self-evaluation process with a questionnaire to help them understand the meaning and requirements of the policy. Suppliers and contractors sign a Letter of Commitment to guarantee compliance with environmental safety and health. The OUCC supplier screening and evaluation mechanism and result include:

1. New suppliers must pass a Supplier Evaluation.
2. Existing suppliers must receive and complete an annual evaluation (on-site or written evaluation).
3. The evaluation process includes record evaluation and field evaluation. The items are, company management, quality, delivery, price, service, and environmental safety. The evaluator grades performance on comparisons between a number of suppliers of the same type. The passing grade to qualify as a supplier is an average of 7 points or higher. A total of eight suppliers were evaluated on-site in 2014 with a 100% pass rate.
4. Of the transport firm evaluated, 37.5% had ISO-14000 certification and 75% had acquired OHSAS-18000.



### Transport supplier's safety and health quality audit

As an enterprise committed to substantiating responsibility, the OUCC is doing everything possible to realize the goal of transport safety. Contracted transport service providers must participate in the Kaohsiung City – Kaohsiung County – Pingtung County diesel self-management program and receive their qualification mark, and comply with environmental and safety standards requirements. A regular "Outsourcing Transportation Safety and Health Quality Audit and Survey" is performed for all the transport service providers, the items audited include:

1. Transport Company Profile and transport policy.
2. Security System and policy.
3. Work procedures and contingency plan.
4. Driver qualification (employment / training).
5. Driver qualification review (evaluation).
6. Equipment safety.

In response to trends in CSR management, contracted tanker or transport companies will be requested to comply with the environmental safety and other health-related issues mentioned in their contracts, pass environmental management system certification, or be free of any industrial safety accident within the previous five years. As a mutual gesture of participation in CSR management and development.



## Community

The OUCC applies their corporate spirit of “taking from society, giving back to society” to sponsor charity groups or to engage in activities of the affiliated charitable foundation of the company, of which sponsorship is subject to the company’s yearly operating performance. We also engage in feedback to the community and collaborate with suppliers to maintain our partnerships. Suppliers and employees are also invited to participate in social welfare activities with the support of enterprises.

The OUCC has occasionally arranged blood donation drives, held along with FE Group other donation activities such as the Taipei Expo, August 8th hurricane donations, 921 earthquake donations; and spontaneous employee donations to disadvantaged groups and volunteer work.

Activities	Briefing	Invested amount (NT\$ Thousand)
Temple festival		33
Heads of sub-ward and heads of tithing gathering	Festival, observation	178
Social group and association activities	Observation, gala	76
Others	Press Association and school arts activities	29
Work with the industry in Lin Yuan to sponsor community activities, such as scholarships, emergency assistance, reconstruction of public space, and the training of environmental volunteers.	Shared amount of Good-neighbor's fund	823



## Association Membership List

We keep in touch with many external organizations across the industry. In addition to active participation in annual meetings, summits, and General Assemblies of international, national, and regional organizations, we make serious effort to understand and respond immediately to the suggestions of external stakeholders with respect to the industry and the sustainable development of OUCC by participation in all the discussions of industry-related issues.

Because the impact of the chemical industry on the livelihood of people and the community is so important, in addition to involvement in public policy debates, the OUCC has become a member of the TRCA. We take an active part in training and discussions and can give advice on industrial safety standards from actual work safety experience.

Association and union name	Admission status	Membership
	(Group, individual)	(General member / Director / Supervisor)
Petrochemical Industry Association Of Taiwan	Group	Member
Taiwan Chemical Industry Association (TCIA)	Group	Executive Director, member
Taiwan Responsible Care Association (TRCA)	Group	Supervisor, member
Taiwan Institute of Chemical Engineers	Group	Member
Taiwan Industry Gas Association (TIGA)	Group	Director, member
Industrial Gas Association of ROC	Group	Director, member
Specialty Chemical Development Association of ROC	Group	Director, member
The Institute of Internal Audit, ROC (Taiwan)	Group	Member
Industrial Safety and Health Association (ISHA) of the ROC (Taiwan)	Group	Member
Kaohsiung Commerce and Trade Development Association	Group	Member
Kaohsiung Personnel Representative Association	Group	Member
Chinese Arbitration Association, Taipei	Group	Member
Chinese National Association of Industry and Commerce, Taiwan (CNAIC)	Group	Member

Event sponsorship:

Unit	Activities	Amount
Taiwan Occupational Health Nursing Association	5th cross-strait occupational health Seminar	60,000
National Central University	Shale Gas Symposium	30,000
Chiang Ching-kuo Foundation for International Scholarly Exchange		500,000
Bureau of Social Affairs, Kaohsiung City Government social assistance account	Kaohsiung gas explosion incident donation	2,000,000
The 2014 Taiwan Chemical Industry Association (TCIA) Summit Forum.		30,000
Taiwan Institute of Chemical Engineers.	The 2014 annual meeting of Taiwan Institute of Chemical Engineers	33,500

## Assurance Statement



## ASSURANCE STATEMENT

### SGS TAIWAN LTD.'S INDEPENDENT ASSURANCE STATEMENT ON SUSTAINABILITY ACTIVITIES IN THE ORIENTAL UNION CHEMICAL CORPORATION'S 2014 CORPORATE SUSTAINABILITY REPORT

#### NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by ORIENTAL UNION CHEMICAL CORPORATION (hereinafter referred to as OUCC) to conduct an independent assurance of the Corporate Sustainability Report (hereinafter referred to as CSR Report) of 2014. The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables contained in this report.

The information in the OUCC's CSR Report of 2014 and its presentation are the responsibility of the superintendents, CSR committee and the management of OUCC. SGS has not been involved in the preparation of any of the material included in the OUCC's CSR Report of 2014.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of assurance set out below with the intention to inform all OUCC's stakeholders.

The SGS Group has developed a set of protocols for the Assurance of Sustainability Reports based on current best practice guidance provided in the Global Reporting Initiative (hereinafter referred to as GRI) Sustainability Reporting Guidelines and the AA1000 Assurance Standard (2008). These protocols follow differing options for Assurance depending the reporting history and capabilities of the Reporting Organization.

This report has been assured using our protocols for:

- evaluation of content veracity at a high level of scrutiny for OUCC and moderate level of scrutiny for applicable aspect boundaries outside of the organization covered by this report ;
- evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2008);
- evaluation of the report against the GRI Sustainability Reporting Guidelines (G4 2013).

The assurance comprised a combination of pre-assurance research; interviews with relevant superintendents, CSR committee members and the management; documentation and record review and validation with external bodies and/or stakeholders where relevant. Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

#### STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirms our independence from OUCC, being free from bias and conflicts of interest with the organization, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 10121, ISO 50001, SA8000, EICC, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

**VERIFICATION/ ASSURANCE OPINION**

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within OUCC's CSR Report of 2014 verified is accurate, reliable and provides a fair and balanced representation of OUCC sustainability activities in 01/01/2014 to 12/31/2014.

The assurance team is of the opinion that the report can be used by the Reporting Organization's Stakeholders. We believe that the organization has chosen an appropriate level of assurance for this stage in their reporting. The report is the first to be assured by an independent assurance team and OUCC has taken a bold step by offering the report to evaluation against both GRI G4 guidelines and the AA1000 Assurance standard. This shows a deserved confidence in their reporting process.

In our opinion, the contents of the report meet the requirements of GRI G4 Core Option and AA1000 Assurance Standard (2008) Type 1, Moderate level assurance.

**AA1000 ACCOUNTABILITY PRINCIPLES CONCLUSIONS, FINDINGS AND RECOMMENDATIONS****Inclusivity**

OUCC has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, Government, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, OUCC may consider having more direct involvement of stakeholders during future engagement.

**Materiality**

OUCC has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

**Responsiveness**

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback

**GLOBAL REPORTING INITIATIVE REPORTING GUIDELINES CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

The report, OUCC's CSR Report of 2014, is adequately in line with the GRI G4 Core Option. The material aspects and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material aspects and boundaries, and stakeholder engagement, G4-17 to G4-27, are correctly located in content index and report. Disclosures on Management Approach components, such as goals and targets, specific actions taken to achieve the expected results, may be further enhanced, and disclosures on EC5, EN4, EN17, and PR1 are encouraged in the future reports.

**Signed:**

**For and on behalf of SGS Taiwan Ltd.**



**Dennis Yang, Chief Operating Officer**  
**Taipei, Taiwan**  
**4 August, 2015**  
**WWW.SGS.COM**



**AA1000**  
**Licensed Assurance Provider**  
**000-8**

## GRI Index

### GENERAL STANDARD DISCLOSURES

Indicator	Disclosure Item	Page Number and Explanation	External Assurance
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G4-2	Provide a description of key impacts, risks, and opportunities	7, 28-31	P90-91
ORGANIZATIONAL PROFILE			
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G4-4	Report the primary brands, products, and services	7	P90-91
G4-5	Report the location of the organization's headquarters	10	P90-91
G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations	10	P90-91
G4-7	Report the nature of ownership and legal form	2	P90-91
G4-8	Report the markets served	13	P90-91
G4-9	Report the scale of the organization	10	P90-91
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G4-11	Report the percentage of total employees covered by collective bargaining agreements	83	P90-91
G4-12	Describe the organization's supply chain	13	P90-91
G4-13	Report any significant changes during the reporting period	2	P90-91
G4-14	Report whether and how the precautionary approach or principle is addressed	26-29	P90-91
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	46, 89	P90-91
G4-16	List memberships of associations and national or international advocacy organizations	89	P90-92
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G4-18	Explain the process for defining the report content and the Aspect Boundaries	34-35	P90-91
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G4-20	For each material Aspect, report the Aspect Boundary within the organization	34-35	P90-91
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	34-35	P90-91
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	First time to issue	P90-91
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	First time to issue	P90-91
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Indicator	Disclosure Item	Page Number and Explanation	External Assurance
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G4-31	Provide the contact point for questions regarding the report or its contents	2	P90-91
G4-32	Report the 'in accordance' option the organization has chosen	2	P90-91
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report	2	P90-91
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G4-34	Report the governance structure of the organization	Please refer to OUCC 2014 annual report	P90-91
G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	25	P90-91
G4-36	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	25	P90-91
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## SPECIFIC STANDARD DISCLOSURES

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DMA and Indicators	Disclosure Item	Page Number and Explanation	External Assurance
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DMA and Indicators	Disclosure Item	Page Number and Explanation	External Assurance
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G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	86-87	P90-91
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	86	P90-91
<b>SUB-CATEGORY: HUMAN RIGHTS</b>			
<b>MATERIAL ASPECT: INVESTMENT</b>			
G4-DMA		77	P90-91
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	77	P90-91
<b>MATERIAL ASPECT: NON-DISCRIMINATION</b>			
G4-DMA		70	P90-91
G4-HR3	Total number of incidents of discrimination and corrective actions taken	None	P90-91
<b>MATERIAL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>			
G4-DMA		83	P90-91
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	None	P90-91
<b>MATERIAL ASPECT: CHILD LABOR</b>			
G4-DMA		59	P90-91
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	None	P90-91
<b>MATERIAL ASPECT: HUMAN RIGHTS GRIEVANCE MECHANISMS</b>			
G4-DMA		82	P90-91
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	82	P90-91
<b>SUB-CATEGORY: SOCIETY</b>			
<b>MATERIAL ASPECT: LOCAL COMMUNITIES</b>			
G4-DMA		88	P90-91
G4-SO2	Operations with significant actual and potential negative impacts on local communities	Our operations are all in industrial areas and thus there's no negative impacts on local communities	P90-91
<b>MATERIAL ASPECT: ANTI-CORRUPTION</b>			
G4-DMA		26	P90-91

DMA and Indicators	Disclosure Item	Page Number and Explanation	External Assurance
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	26	P90-91
G4-SO4	Communication and training on anti-corruption policies and procedures	26	P90-91
G4-SO5	Confirmed incidents of corruption and actions taken	None	P90-91
<b>MATERIAL ASPECT: PUBLIC POLICY</b>			
G4-DMA		89	P90-91
G4-SO6	Total value of political contributions by country and recipient/beneficiary	None	P90-91
<b>MATERIAL ASPECT: COMPLIANCE</b>			
G4-DMA		25	P90-91
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	None	P90-91
<b>MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY</b>			
G4-DMA		63	P90-91
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	Haven't used criteria for impacts on society to screen suppliers	P90-91
<b>SUB-CATEGORY: PRODUCT RESPONSIBILITY</b>			
<b>MATERIAL ASPECT: CUSTOMER HEALTH AND SAFETY</b>			
G4-DMA		39	P90-91
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	None	P90-91
<b>MATERIAL ASPECT: PRODUCT AND SERVICE LABELING</b>			
G4-DMA		39	P90-91
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	100%	P90-91
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	None	P90-91
G4-PR5	Results of surveys measuring customer satisfaction	84	P90-91
<b>MATERIAL ASPECT: CUSTOMER PRIVACY</b>			
G4-DMA		84	P90-91
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	None	P90-91
<b>MATERIAL ASPECT: COMPLIANCE</b>			
G4-DMA		39	P90-91
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	None	P90-91