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# Holistic Approach Demonstrating Safety, Health & Environmental is Good for Any Business

Submitted by:

**Gulf Petrochemical Industries Company (GPIC)**

## Attention

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**Holistic Approach Demonstrating Safety, Health &  
Environmental is Good for any Business**  
**Executive Summary**

Holism as Aristotle summarized in “Metaphysics” is "The whole is more than the sum of its parts." Combinations go on to form further, more complex, combinations. This is where integration can generate beneficial combinations as we see in nature Sodium and Chlorine two dangerous chemicals yet when combined is an essential part of man’s diet. People can choose with whom they wish to associate, to what extent and for what purpose. Experience has shown that people who come together for a purpose will often produce ideas and select a course of action very different from the ideas held by anyone individual before meeting. This is how Gulf Petrochemical Industries Company (GPIC) exists and has developed into a successful company in a holistic way.

Good business today depends on investing in Safety, Health and the Environment (SH&E). At GPIC a small petrochemical plant emerging in the Middle East in the Kingdom of Bahrain the leadership recognizes that investment in SH&E is an essential part of the mix of a successful company. GPIC’s endeavor for Holistic Excellence has resulted in a very successful company that has a highly motivated workforce, an ever-increasing customer base, mounting profits and enhancing reputation. By the insistence of setting high standards for SH&E and quality issues this has resulted in the company winning global recognition which has resulted in many prestigious awards in various fields including SH&E. This limelight has pushed the company to become a trendsetter in the Gulf region in promoting the benefits of SH&E principles.

All of this was started before 1988 which was the year the company received its first safety award, a National Safety Council Award of Merit from the USA. It is also an incredible achievement when considering the backdrop to all this, two Gulf wars and constant upheaval

within the region. This case study shows the path GPIC has taken from being the first Arabian Gulf Cooperation Council's (GCC) venture into establishing a petrochemical industry in the Kingdom of Bahrain. The business of GPIC is to produce and market high volumes of best quality Ammonia, Methanol and Granular Urea using Natural Gas. The study follows the recent history of GPIC looking at landmark achievements and is aimed at showing the "One Team Spirit" that exists in the company which is one of its most potent attributes of its dynamic mix.

In 2005 the company generated a record turnover of US\$234,191,000 and aggregate net profit of US\$128,257,000. By the end of 2005 GPIC had performed exceptionally well in all areas of activities and was recognized internationally as a role model for SH&E. Amongst the awards that company received that year was the prestigious international award "Sir George Earle Trophy" from the Royal Society for the Prevention of Accidents (RoSPA), UK.

In 2006 the company continued to grow in stature and achievements, setting new records in terms of profitability and operational reliability. The cumulative total production in 2006 was 222,222,222 tonnes. GPIC has shown great vitality, a culture of excellence and a continued appetite for achievement (no, resting on its laurels). In 2007 the company grossed over \$201,000,000 which equates to 24% rise in net profits. The company is planning future expansions and diversifications and the company firmly believes a commitment to SH&E is the key to opening these new doorways.

The case study highlights the development of GPIC by looking at where it is today with fully implemented SH&E Management Systems and now the company is integrating the SH&E Management systems as part of the "Holistic approach to SH&E i.e. the whole is greater than the sum of the parts. The company's success shows that, leaders at the top of the company have played a leading and active role in all SH&E commitments, further demonstrating the "one team spirit". The leadership recognizes that it is equally important to put the SH&E message over to the families of employees, both young and old. Moreover, the case study shows the determination of the company to encourage the local community, the country and

further a field to embrace SH&E issues and to develop laws and regulations which benefit people, helping them to make the most of their lives in a safety conscious environment.

The management leadership within GPIC has always been designed to ensure speedy bottom to top and top to bottom communication. Hence the organizational structure is reasonably flat. The General Manager (GM) and the Deputy General Manager (DGM) are aware of the day to day operations within the process areas. The DGM is the chairman of the SH&E Committee which meets each month. Although the GM and DGM like to be “hands on” they do give a great deal of autonomy to their managers.

The events of 2007 are also highlighted, GPIC set it self very large challenges and all were achieved including introduction of Enterprise Resource Planning (ERP) system using SAP. The Quality Managements Systems ISO 9000, OHSAS18001 and ISO14001 were fully integrated and qualified under Publicly Available Specification - PAS 99. Enterprise Risk Management (ERM) was also established and the business risks assessed. All this activities were a prelude to the largest Turnaround in GPIC’s history; it was most expensive, required the highest number major equipment replacement and refurbishment, it record the highest number of man hours, yet the lowest number of accidents and incidents were reported.

There is a real conviction within the company that its success is firmly linked to its commitment to Safety, Health and Environmental care and the “one team spirit”. GPIC’s bottom line is that investment in SH&E creates employee confidence, which is reflected in the operational excellence of the company. This has resulted in a customer base that desires quality, reliability and complete confidence in its suppliers. The Board of Directors and Senior Management Team resolutely believe in **“It is not what SH&E costs, it is what SH&E SAVES”**. (990)

## **1.0 BUSINESS PROFILE**

### **1.1 Business Description**

The Gulf Petrochemical Industries Company (GPIC) is the first Arabian (Persian) Gulf Cooperation Council's (GCC) venture into establishing petrochemical industry in the Kingdom of Bahrain. Utilizing Bahrain's Natural Gas resources the company produces Ammonia, Methanol and Granulated Urea. GPIC's Sectors' Categories are the Manufacture of Fertilizer and Nitrogen Compounds and Manufacture of Basic Chemicals except Fertilizers and Nitrogen Compounds Reference to the United Nations International Standard of Industrial Classification (ISIC) Codes: 2412/2411 respectively.

The company was established in December 1979 and commenced production in 1985. Three parties equally own GPIC. The Saudi Basic Industries Corporation (SABIC), representing the Government of the Kingdom of Saudi Arabia, the Petrochemical Industries Company (PIC), representing the Government of Kuwait and the National Oil and Gas Authority (NOGA), representing the Government of the Kingdom of Bahrain. For further details please visit GPIC's website at <http://www.gpic.com>

There are three production facilities which have been built on reclaimed land from the sea, on an artificial island that is 600 meters wide and 1000 meters long. The complex also houses all utilities facilities, engineering, maintenance and administrative buildings. An on site Gas Turbine Generator supplies the Ammonia and Methanol production plant's power. The local electrical utilities company supplies the Urea facility. The production capacity is 1200 tons per day Ammonia; 1200 tons per day Methanol and 1700 tons per day Granulated Urea ([Exhibit V1-1. Description of the Processes](#)). In 2007 the cumulative total production reached 1.4 million metric tones 1.9% above planned production.

The complex is connected to a Urea export facility through a 3-kilometer long conveyor belt system that exports granulated Urea to the international markets. Ammonia and Methanol are exported through another export facility, which is owned and operated by Bahrain Petroleum Company (BAPCO). GPIC is considered the largest exporter of products in the Kingdom of Bahrain.

GPIC markets most of its product to the international markets including the United States, Australia, China; New Zealand; India; Korea and Europe. In 2007 GPIC the company grossed over \$201,000,000 which equates to 24% rise in net profits. A major contributing factor considered by all at GPIC, to be significant in this success is excellent Safety, Health and Environmental management ([Exhibit V1-2](#)

[graph illustrating the Production, Profit and Man hours Worked from 2003-2007](#)).

The company currently employs 522 employees and utilizes the services of about 200 to 300 contractor personal during normal working conditions. These figures were greatly increased during November 2007. In which the largest Turnaround in GPIC's history took place and the workforce was expanded by an additional 3000 contractors. The company enjoys and encourages very good Management relations with the Labor Union and was in fact the first company in Bahrain to allow the establishment and recognize a Workers Labor Union.

## **1.2 SH&E and Business Challenges**

A core value of GPIC is occupational health, safety and care for the environment and it is the company belief that Safety, Health & Environmental (SH&E) issues are fundamental to for good business today and even more so in the future. The management of the company has always been focused on SH&E issues and as a result the company is recognized internationally as a leading entity in safeguarding its people, assets and the environment. The company policy's is drafted with the aim to ensure that GPIC's commitment to SH&E co-exists in harmony and for the mutual benefit of the Kingdom of Bahrain, the local community and the environment.

GPIC's SH&E and the initiatives are managed through an integrated and internationally recognized management system. The company looks for benchmarks and applies for award recognition and by doing so puts itself under the microscope to be assessed by others, especially in matters relating to SH&E. GPIC has achieved numerous SH&E landmarks some of which demonstrate the effective SH&E management systems and the environmental friendliness of its operations, for example:

At the end of December 2007, GPIC's person-hours worked without Lost Time Accidents (LTA) was 6,565,495 or 2050 days since the last LTA recorded on 20/5/2002. Similarly, the Contractor person-hours worked without LTA was 4,424,003 hours or 1587 days. The total combined LTA free hours are 10,989,498 at the end of 2007.

The year 2005 was a successful year in terms of SH&E, by GPIC being awarded the Royal Society for the Prevention of Accidents (RoSPA), United Kingdom (UK), "Sir George Earle Trophy" and the Chemical Sector Award. A third Chemical Sector Award in succession being awarded by RoSPA to GPIC, which was received in May 2006, and the Rafeeq Al-Hariri Award augmented this for

Operational Excellence in the Arab world. Furthermore, this challenge was also met, when GPIC received the International Sector Award from RoSPA in May 2007.

GPIC environmental performance is also outstanding. The company received a number of awards for environmental achievements including: the Arab League Award for Best Management Environmental Management 2006; Highly Commended recognition by the Institute of Chemical Engineers, UK in the ABB Environmental Excellence Scheme; and in May 2007, and the Gulf Cooperation Council Best Environmentally Compliant Plant. Such awards are a result of GPIC SH&E Projects including:

- Charity Garden
- Fish Farm
- Bird Sanctuary
- Herb Garden

GPIC has received many awards and will continue to ask organizations to review it's status that it may learn and use the process as part of continual improvement program ([Exhibit V1-3 List of awards](#)).

As a business, GPIC is considered as small producers of chemicals and fertilizers. With existing stagnation on production capacities, lack of feedstock (Natural Gas) availability from the Kingdom of Bahrain or imports from Iran and Qatar, the main business challenge is expansion and growth. Accordingly, the company embarked on a major Enterprise Risk Management (ERM) project during 2007 and as a result, some growth options are currently being considered. ERM will be fully implemented during 2008. The consultant used on this project was Pricewaterhouse Coopers (PWC). Through ERM GPICs aim is to safeguard the businesses against losses, earnings surprises and reputational damage. It is also seen as a tool to enhance the basis for decision-making through a clearer articulation of businesses objectives, more focused management information and a better understanding of the trade-offs between risk and reward. Ultimately progressing GPIC enterprises, providing assurances that will enable GPIC to take more controlled risks and capitalize on opportunities.

## **2.0 LEADERSHIP**

### **2.1 Organizational Leadership**

Since the inception of GPIC, the founders of the company have instilled a culture of firm commitment to SH&E. The GPIC petrochemical complex was designed and constructed to the strictest SH&E

engineering standards. At GPIC great emphasis is placed on high standards and higher standards in Health & Safety and the environment are paramount to the Board of Directors. So from the Board of Directors, through the Senior Management team to the main workforce there is a co-operation to maintain high standards of SH&E. The effectiveness of this cooperation is visible in the commitment of the SH&E programs which in turn produced accolades both nationally and internationally. At GPIC the leadership being holistic is the benefit of the business and the people and is central to the “Corporate Governance”. Experience has shown that people who come together for a purpose will often produce ideas and select a course of action very different from the ideas held by anyone individual before meeting. This is how Gulf Petrochemical Industries Company (GPIC) exists and has developed into a successful company in a holistic way, "The whole is more than the sum of its parts." ([Exhibit V1-4 Holistic Excellence see also Exhibit V1-14](#)).

GPIC’s corporate governance model also includes all stakeholders and very specifically those related to Health and Safety and employee involvement. Corporate Governance Model, which demonstrates to what extent GPIC attempts to encompass such issues. The key to the model is empowering and involving employees and making them partners in the decision making process. ([Exhibit V1-5 SHE & Corporate Governance](#))

GPIC established the first Labor Union in Bahrain prior to the Union law being passed in Bahrain. This initiative was then filtered down to other industries and organizations in Bahrain. At GPIC there is a sincere commitment by the leadership to following from the top:

- The safety of our people is a value which is never to be compromised;
- Safety excellence is recognized as good business at all levels within the company;
- Leaders at all levels are to be SH&E role models;
- Effective SH&E leadership is a requirement for any promotion;
- Making people aware of the hazards and risks in their workplace and act accordingly is fundamental;
- Compliance with National Standards of SH&E is the base line;
- Compliance with SH&E standards and procedures is absolute;
- 'At risk' behaviors are not acceptable and are addressed when observed; and



- Developing skills to lead and work safely are encouraged through ongoing training and mentoring.

The current General Manager (GM) Mr. Abdul Rahman Jawahery assisted by DGM Mr. Eduard Horn have continued along the same path enhancing the SH&E commitments and in doing so raised the profile of GPIC not only in the Gulf States but globally.

GPIC's leadership promotes SH&E at every opportunity, further example the GM is a member of the Shura Council (which is the appointed section of the Bahrain Parliament – Upper House). He represent Bahrain's industrial sector in the country's National Assembly. His main agenda is the promotion and establishment of SH&E legislations within the Kingdom.

In 2006, the GM was re-appointed to the Shura Council up to 2010 by Royal appointment. The GM's desire is to use GPIC SH&E experience as a model for Bahrain's industry and mandated for the development of a National Consultancy body for SH&E matters. He is promoting consultation with the National Safety Council (NSC), National Examination Board Occupational Health & Safety (NEBOSH), RoSPA and Institute Occupational Safety & Health (IOSH). His ultimate goal is to see an organization similar to American Occupation, Safety & Health Administration (OSHA) or Health & Safety Commission UK (HSC) being formed within Bahrain that will spread to benefit the whole of the Gulf Region ([Exhibit V1-6 GM Articles and GM's memo to mandate for development of National Safety Body](#)).

The GM is also credited for establishing SHE committees in International organizations including:

- 2006 as Chairman of the Technical Committee of the International Fertilizer Industry Association (IFA), he instigated a SHE committee as part of the Technical Committee.
- Again in 2006 as Board Member of the Arab Fertilizer Association (AFA), he has established a similar committee to ensure that SHE initiatives are made more prominent within all Arab fertilizer producers.
- Appointed ambassador for NEBOSH (2006)

All members of the Executive Management Team are involved with Institutes and Societies many of them serve on the various committees. The GM has made a point that all these people should personally encouraged the setting of sub-committees within these organizations to look at SH&E issues

within their areas of expertise. ([Exhibit V1-7 Article on GPIC Senior Personnel serving on Boards of Various Societies](#))

The GM is prominent in promoting SH&E nationally and internationally; within the company the same vigor is applied. Each month a Board Meeting is held with all the Directors and the GM personally presents all the SH&E items. The GM holds a weekly Management Meeting in which the Integrated Management Systems are discussed and assessed.

At GPIC, the SH&E Management System is guided by the Board of Directors by their commitment and support to SH&E issues. However, their involvement on the day-to-day issues is delegated to the Executive Management Team, due to their home locations. However, their unlimited support for SH&E initiatives, direct review and follow up on SH&E issues is shown in the board minutes. The Board's deliberations and physical involvement in the GPIC's SH&E events are testimonies of their leadership commitment to SH&E. ([Exhibit V1-8 Board Member Involvement items 1-5](#))

On the day-to-day SH&E leadership, it is committee based, leading is the SHE Committee chaired by the DGM. At its base there are the **Safety Committee (SC)**, **Health Committee (HE)** and **Environmental Committee (EC)** which are chaired by Security Safety Manager (SSM), Chief Medical Officer (CMO) and Maintenance Manager (MTM) respectively.

Each month the **SC, HC and EC** meetings receive feedback from the Management Meetings and from the workforce via Superintendents, Supervisors and Labor Union Representatives. These three committees then feed into the SHE Committee, which is also held each month. Each committee also has Superintendents, Supervisors, operators, warehousemen and delegates from the Labor Union ([Exhibit V1-9 "GPIC "Permanent Committee Structures" items 1-4](#)).

The SHE Committee as explained is chaired by the DGM and consists of the Plants Operational Managers (POM) along with, Technical Services Manager (TSM), CMO, SSM, Safety & Security Superintendent (SSST), Chairman of the Labor Union (CLU) and Personnel Superintendent (PS). The minutes of all these meetings are posted on the Intranet and hard copies sent out for discussion during shift talks and placed on notice boards so all employees have access.

A monthly meeting with Contractor Representatives to discuss SH&E issues is held. The company also insists that if the contractors has more than 20 employees working at GPIC their Safety Representative

must hold a recognized Safety Qualification i.e. NEBOSH Certificate. GPIC encourages these companies to invest in OHSAS Safety, 18001, Environment, ISO14001. ([Exhibit V1-10 Agenda and Minutes of Meeting](#))

The leadership commitment extends to the employees families via the company annually holding it's **SH&E week** and **family evening**. During this week, numerous competitions and events are arranged for the employees', contractors and their families including children. All encouraged to participate and thereby advancing awareness of SH&E issues to a wider audience. There are children's essays and painting competitions. The adults encouraged to enter safety quizzes and be involved. Contractors who work at GPIC also take part especially in the SH&E Week setting up demonstrations and exhibitions. Guest speakers appear from Bahrain and from further a field. It is encouraging to see that the figures of participation increase each year. ([Exhibit V1-11 Competition figures 06-07](#)) The competitions were published in a series of booklets printed for each occasion and included the children's book "Safety in a Nutshell" plus coloring book and safety stickers. The adult competition for the safety night was published in "Safety At Home". The employee's competition for SHE Week was published in the booklet "Safety Focus". ([Exhibit V1-12 SHE Competition publications items 1-4](#))

The 2007 SHE Week was equally successful and both the National Fire Service and Traffic Police were involved as well as Ministry of Power and Water. ([Exhibit V1-13 Photos of SHE Week and Family Night](#))

GPIC's leadership commitment to SH&E is further demonstrated through its genuine belief in the "triple-bottom-line" business concept, where profitability and creating shareholders value is equal to the company's social responsibilities and commitment to health, safety and protection of the environment. "Holistic Human Resource Development" provides a picture of GPIC's leadership management approach relating to human resources where the concepts of triple-bottom-line are explained further and SH&E leadership is demonstrated throughout the organization. ([Exhibit V1-14 "Holistic Human Resource Development"](#))

## **2.2 Commitment to SH&E Promotion**

The GM is a man who firmly believes "**It is not what SH&E costs, it is what SH&E saves**". This philosophy is cascaded down and everyone is committed to put safety first, no matter the delays it may

cause, the work is only to be carried out when all reasonable safety measures are taken. The GM personally tasked a team of people from all departments to review both the “Permit to Work (PTW) System” ([Exhibit V1-15 GPIC PTW](#)) and the “Emergency Procedure” ([Exhibit V1-16 GPIC Emergency Plan](#)). This was carried out in 2006 and the new PTW System and Emergency Procedure booklets were published in December 2006. All Employees and Contractors received a copy of each manual and training sessions were held to update all employees with the changes.

Within GPIC, Key Performance Indicators (KPIs) ([Exhibit V1-17 2007 KPI Results](#)) are set at the beginning of each year and monitored each quarter. Supervisors at all levels take part in auditing or carrying out inspections as part of the Integrated Management System. The auditing includes audits of the quality systems relating to safety systems such as the PTW and inspections include the like of housekeeping inspections. This is to be augmented in 2007 by Behavior Based Safety (BBS) audits. During 2006 over 300 employees and contractors attended a basic course in BBS and 55 went onto an advanced BBS course. Unfortunately due to other commitments e.g. implementation of ERP via SAP the BBS program only got underway in September 2007 ([Exhibit V1-18 BBS Forms and BBS Audits & Reports.](#)), however it showed its usefulness during the 2007 Turnaround where over 30,000 observations were taken. ([Exhibit V1-19 BBS Observation from 2007 Turnaround](#)) there was an enormous amount of data generated which the analysis will help improve GPIC’s SH&E.

Traditional data from inspections and audits is analyzed and discussed at the SC, HC and SHE committee meetings on a monthly basis. At GPIC Performance Measurements and Information Management is now key to our SH&E policies. At present we have three years of standardized quantitative data held electronically, additionally we have SH&E information going back to the early 90’s. This information is used to observe trends and set annual KPI’s. Additionally GPIC is audited by outside auditors for OHSAS Safety, 18001, Environment, ISO14001 and now IT Security ISO27001.

### **2.3 Labor/Management Relations**

At GPIC there is a phrase “One Team Spirit” and this is more than a phrase. It is genuine in the hearts and minds of all employees. On the approach to the plant this message is posted, once you are inside the plant it has a presence. Using the GEM and each occasion he speaks to people officially and

unofficially the GM promotes the firm belief in “One team spirit”. GPIC has always maintained that its employees are the most valuable assets of the company. During 2006 this concept gained new impetus with the appointment of a Human Resources Specialist to develop a comprehensive program comprising a competency framework and a succession plan for the next decade. As a further development in providing state of the art facilities to employees, an e-Learning Centre has been established at GPIC.

Confirming what was written earlier GPIC was the first company in Bahrain to recognize a Labor Union. Relations with the Union are very good indeed and representatives of the Union are attached to all the committees including the SHE Committee ([Exhibit V1-9 item 4](#)). GPIC ensures an employee representative must be an integral part in the SC and all Hazard and Operability (HAZOP) reviews. Furthermore, after the formation of GPIC’s Labor Union, a formal structure titled “Management & Union High Council” was formed. One key subcommittee from the High Council was established as a joint committee to ensure further workforce involvement in SH&E issues, namely, the Safety, Security & Environment Joint Consultative Committee (SSEJCC). GPIC has a suggestion scheme in which employees can provide suggestion on all matters from the process, SH&E and welfare and those suggestions which are successful a reward is given.

All company employees’ benefit from the purpose built GPIC Social Club for social and family activities including sports, marriages, social gatherings, rest and relaxation. An annual summer camp is also organized for the children of employees providing 8 weeks of activities.

#### **2.4 Corporate Citizenship & Responsibility**

GPIC has always had influence in Bahrain and aided by the Management philosophy is determine to be in the hearts and minds of Bahrain. Long before the introduction of legislation or guidelines to control industrial pollution levels the company had, of its own accord, established standards of safety and emission control measures that comply with the most stringent modern international benchmarks and scrutiny. As explained earlier the company was specifically conceived to produce petrochemicals and fertilizer from Bahrain's natural gas and in doing so, has added value and boosted exports. The whole country has benefited from GPIC. Over the life of the company the revenues have been in excess of \$2.5 billion. Since nearly all revenues resulted from exports this amount constitutes a significant contribution to Bahrain's foreign exchange reserve.

In addition to the economic contribution GPIC has demonstrated that it is a responsible member of the society. There are numerous local projects and charities that GPIC sponsor including SH&E, medical, deprived areas, sports activities, learning and exhibition/conferences.

Internationally in 2007 as part of GPIC's intent to promote "SH&E is good for all businesses", it is sponsoring an award through RoSPA to promote Environmental Projects and acknowledge good achievements known as the "International Dilmun Environmental Award". Please refer to <http://www.rospa.com/awards/environmental/index.htm> for further details.

Within the company there are a number of programs involving SH&E initiatives involving employees and the local community they are:

- **Charity Garden** - GPIC launched its environmental program in March 1992 with a Charity Garden. Built on an area of 1500 m<sup>2</sup>, this garden yielded more than 14 tons of vegetables and fruits that were donated to charities and families in need. To promote environmental responsibility into the hearts and minds of all employees, 16,000 m<sup>2</sup> of land within the GPIC Complex were dedicated for employees to plant their own trees. The result is a green oasis with 80% of the trees donated by the employees and the remaining 20% planted by dignitaries visiting GPIC premises. This project raised the number of trees planted to more than 4700 trees and covered 90% of un-used land in the complex.
- **Fish Farm** - GPIC has constructed a fish farm on the South side of the GPIC complex near the out fall of the plant. The project began November 1996 with the aim of demonstrating the company's will to be environmentally accountable, setting a good example for industry and replenishing dwindling fish reserves in regional waters. Since the beginning of the project, 310,000 sea breams (rare species) have been released into the sea. This demonstrates that even while operating a sophisticated petrochemical complex it is possible to care for the environment. The fish not released to the sea are sent to local charities serving the underprivileged.
- **Bird Sanctuary** - in the summer of 2001, a large group of Flamingos stayed around the shores of GPIC. Normally they migrate to other countries and return to Bahrain in the winter. Their

stay indicates that the sea and land around GPIC is suitable for flamingos and birds to live throughout the year. The interest shown by employees in the birds encouraged GPIC's management to establish a Bird Sanctuary at the complex. Subsequently, in June 2002, the company managed to obtain permission from the concerned local authorities to declare the area south west of the complex to be a protected Bird Sanctuary. With an area of about 600,000 m<sup>2</sup>, two 3800m<sup>2</sup> man-made islands and artificial ponds have been created. The islands and the coastal strip provided a safe haven for indigenous and migrating birds alike. Over 120 different types of birds have been recorded visiting the sanctuary. The first ever hatching of Western Reef Heron on Bahrain's main land was also recorded at the sanctuary. The project is being expanded using a total of 2000 mangrove saplings and reeds being planted around the islands

- **Herb Garden** – one of the most recent projects is the "HERBAL AND MEDICAL PLANTS GARDEN" inaugurated on 9<sup>th</sup> May 2005. Covering an area of 1200m<sup>2</sup>, this innovative project was launched with the prime objective preserving indigenous herbs and plants that were once used by inhabitants to treat various illnesses. The garden currently encompasses 20 types of herbs and shrubs. This garden has also become a very useful platform for researchers, school students and dignitaries from which to benefit. GPIC Launched its Herbal and Medical Plants Garden under the patronage of His Highness Shaikh Abdulla bin Hamad Al Khalifa, Governor of the Southern Governorate and Chairman of the Public Commission for the Protection of Marine Resources. ([Exhibit V1-20 Shows Photos of the Projects](#)) The garden has double in size during 2007 and in 2008 a hydroponic greenhouse will be set up with a standard greenhouse for research.

**School Environmental Awareness Program** – In 2001 GPIC encouraged schools to visits the complex or GPIC representatives visited the school to present an environmental lecture. In 200 there were 107 environmental school lectures successfully completed. This brings to a total of 10245 students attending the presentations since 2001. In 2005 GPIC, in conjunction with the Ministry of Education setup an Environmental Research Fund for school group research projects. In 2007 a total of 85 school group research projects were received, out of which 20 were selected for grants. During March 2007, all

projects were evaluated and the three top projects were selected for awards. An awards ceremony under the patronage of H E the Minister of Education took place in August 2007.

### **3.0 SH&E MANAGEMENT SYSTEM**

#### **3.1 Management Leadership & Commitment**

GPIC's SH&E is managed through an integrated policy that is endorsed by the company's Managing Director and GM to reflect the highest level of commitment to such endeavors, and allocates the required resources to implement the same. The current policy statement (CQS-CQM-SH&E Revision 2 – December 2006) is available in the public domain at <http://www.gpic.com/default.asp?action=category&id=66>. The policy authenticates GPIC's commitment to continually enhance and invest in the company's overall SH&E core values which transforms into excellent "Business Performance".

Over and above the formal commitment to the SH&E initiative, GPIC's Directors demonstrate full commitment to SH&E endeavors by being role models. They participate in every SH&E event that takes place in GPIC. Both GM and DGM are respected for their "hands on" approach to working in the plant the DGM personally tours the plant most mornings and speaks to the workforce. Both personalities are very approachable and go out their way to make contact at all levels.

GPIC's culture is built on the eagerness and commitment to SH&E and the initiatives are these are managed through an integrated and internationally recognized management system comprising of:

- Quality Management System ISO9000
- Environment Management system ISO14001:2004
- Occupational Health and Safety Management System OHSAS18001:1999
- OSHA's Process Safety Management (PSM)
- International Maritime Organization's (IMO)
- International Code for the Security of Ships and Port Facilities (ISPS Code)
- Behavioral Based Safety (BBS)
- Information Security Management System ISO 27001:2005

In January 2006, GPIC achieved **Platinum level registration** to British Standards Institute (BSI) Benchmark. Certificate BM 98389. GPIC also was the first company in the world to achieve platinum status. As part of GPIC's OHSAS 18001:1999 accredited system and Process Safety Management



(PSM) system ([Exhibit V2-1 SH&E-GEN-04](#)), workforce involvement is a separate element that is addressed in full detail. At present the OHSAS 18001:1999 ([Exhibit V2-2 SOP SH&E-GEN-02](#)) and PSM procedure (SH&E-GEN-04) highlight the need for the workforce involvement, be it GPIC's employees or contracted workforce.

GPIC has fully integrated the management systems in the areas of ISO 9001 quality management, ISO 14001 environmental management and OHSAS 18001 occupational health and safety management systems utilizing the Publicly Available Specification Number 99 (PAS 99) of common management system requirements. In 2007 integrated external assessments was finalized and GPIC was given full accreditation for a fully Integrated Management Systems by the British Standards Institute (BSI). These three systems are administered under one Integrated Management System based upon the BSI Publicly Available Document PAS 99, Specification of common management requirements as a framework for integration.

The specification identifies the common elements of the six major international standards and provides a framework for integrating these management systems into a single entity.

The main thrust of the initiative has been to develop a common risk assessment mechanism for quality, environmental, health and safety issues. This mechanism, which is based on the policies and objectives identified by top management, has streamlined the risk assessment process enabling the company to concentrate its energy on the three basic tenets of the organization, as stated in the policy, which are:

- To manufacture quality products
- While operating a zero harm (to people and the environment) organization.

Apart from reducing duplication of effort in the implementation of the overlapping requirements of the standards, a common, integrated approach allows us the a single external assessor who can audit all three systems at the same time, this not only reduces the number of audits undertaken in each area of the company, but also reduces the cost of such audits by about three man days per year. ([Exhibit V2-3 Integrated Management Systems PAS99](#))

Periodical benchmarking takes place at GPIC, where companies and organizations such as AFA, IFA, Johnson Mathey Catalysts, Plant Survey International, and ERAS have taken part. SH&E is often part of the benchmarking and all reports are available on-site at GPIC ([Exhibit V2-4 Benchmarking](#)).

### **3.2 Organizational Communications and System Documentation:**

The Company Quality Manual has been completely revised to include all three management system requirements Quality Management System ISO9000, Environment Management system ISO14001:2004 and Occupational Health and Safety Management System OHSAS18001:1999. The manual is now fully integrated. All departments are governed by written Standard Operating Procedures (SOPs), Standing Instructions (SI) and Guidelines (GL).

Everyone has access to the intranet and internal e-mail system. Managers have access to and receive e-mails via “Blackberry” mobile phone handsets. The intranet is where most of the integrated managements systems are communicated and SOPs, SIs, GLs and the Quality Manual are published centrally as well as departmental hard copies. Both Accident/incident and Quality System Non-Conformance are integrated electronically. These systems are based on Lotus notes, which publish the item and monitor the progress of actions to bring the matter to a conclusion.

Accident and Incident information is exported to spreadsheets for review, looking for trends and used by both SC and SH&E committee. Additionally SH&E Housekeeping inspection/audits are created on Lotus Notes and the progress of “close out” of these items is monitored. All the information is then reviewed at the end of the year as previously explained in the Annual Management Review chaired by the GM.

All above systems are actively shared were applicable with the employees and contractors. Other mediums are used to publishing results and findings on the company’s intranet, notice boards on which various publications including “Safety Matters” newsletter ([Exhibit V2-5 Copies of Safety Matters](#)); At GPIC contractor meetings are important and during the 2007 Turnaround a daily contractor Safety Meeting was held. Each day a newsletter formed part of the discussion and contractors were encouraged to follow through to hold “Toolbox Talks” with their people and asked to keep records ([Exhibit V2-6 Turnaround Safety Newsletters 1-24](#)).

### **3.3 Assessments, Audits, Evaluations and Continuous Improvement:**

At GPIC the SH&E management assessment is a continuous process via the monthly meetings of SC, SHE Committee, HC and EC. Feeding into these committees are employees concerns,

recommendations/assessments from industry, changes in legislation and accidents statistics. Then the Quality System is reviewed looking at success and identify failings and the necessary actions are taken to remedy problems. As explained earlier there is the desire within the company to benchmark at every opportunity to assess GPIC's performance with similar industry. All production facilities have been benchmarked with near by facilities in and around the Gulf region.

In 2006 GPIC brought in outside consultants to carryout an Ergonomic Survey of the whole plant. The Canadian consultants "Industrial Accident Prevention Association" (IAPA) carried out the survey. The report concluded GPIC's systems were robust and the recommendations of the study were suggestions for continual improvement, no areas of safety were found lacking. Accordingly, action plans were identified by GPIC for implementation during 2007/2008 fiscal budgets.

### **3.4 Hazard Recognition, Evaluation and Control**

All elements of the company are risk assessed including matters relating to SH&E and Financial Risk. GPIC carries out its own risk assessments and Insurance companies are carrying out other risk assessments. At all stages of development of any projects within the company risk assessments are fundamental. Where there has been an accident any relative risk assessment is reviewed and in circumstances where there is no risk assessment available one will be carried out. In matters relating to engineering and process a HAZOP Study will be carried out and recorded. All risk assessments and HAZOP's are recorded and published for all employees to review. Further to this the introduction of ERM is seen to improve GPIC's horizon-scanning which typically involves identifying particular events or circumstances relevant to the GPIC's objectives (risks and opportunities), assessing them in terms of likelihood and magnitude of impact, determining a response strategy, and monitoring progress. By identifying and proactively addressing risks and opportunities, business enterprises protect and create value for GPIC stakeholders.

All contractors and suppliers are sent a copy of our "Minimum Safety, Security, Health and Environmental Requirements" ([Exhibit V2-7 Minimum Standards ...](#)), which details what standards that GPIC requires. The site safety induction provides information to visitors and contractors on the hazards to be found on site and further explains the controls in place i.e. restrictions of certain

equipment, smoking policy, the Permit to Work system and a guide to the Personal Protective Equipment to used and worn. The induction not only includes a video but there is also a small test paper, which acts as evidence of completing the induction and proof of learning/understanding ([Exhibit V2-8 HSE Induction Course Test Paper](#)).

To ensure that the plant is maintained to the highest standards a Planned Maintenance System (PMS) is in place. The PMS is electronic and produces lists identifying when equipment is due for maintenance and provides information of when it was complete and by whom.

GPIC has a Safety & Security department of over thirty-five persons made up of a SSM, SSST, Safety & Security Officers and Fire & Safety Officers. These personnel are available 24 hours a day carrying out safety and security checks. The Fire Safety Officers men fully equipped fire stations and are supported by a fully operational medical centre all on site within the complex.

### **3.5 Workplace Design and Engineering**

GPIC was built to the highest available specification and has continued to maintain the same standards as the complex has grown. Similar standards are equally applied in providing the best for the employees in facilities and comfort. As explained earlier all process and engineering matters begin with a HAZOP. The HAZOP team is made up of a HAZOP coordinator, engineers, process supervisors and members of the safety department.

If modifications are requested the electronic Modification Systems sends the details to all departments as a way of informing people of the modification. Also it requests people to make comments on the contents, regarding the changes.

Workplace design for the comfort of employee's contractors and visitors begin in the same way and are the further referred to the Labor Union and relevant committees for comment. There is a large emphasis on everyone having his or her say although this policy is criticized at times for being slow.

GPIC's database of accidents/incidents mentioned above also forms an input into the design and engineering of the GPIC workplace. For example, during the early 90', unsafe reports of operators using ladders to operate overhead valves, resulted in the designing and installation of access platforms for all such valves and hence, reducing the risk from fall from height and less physical tension.

Additionally, the IAPA study referred above was a further attempt to revisit the design and engineering of the workplace. There is a volume of suggestions and ideas for consideration and action.

### **3.6 Operational SH&E Programs**

Typical operational SH&E programs include safety audits and inspections ([Exhibit V2-9 Status of SHE Inspections](#)) of the facility. Annually the SH&E committee declare a number of KPI's relating to targets for SH&E issues which are reviewed quarterly. Regular testing of the Emergency Procedure i.e. carrying out Emergency Exercises on a small scale on the plant and large scale involving "Mutual Aid" partners on or off site are carried out regularly during 2007 the emphasis was on building evacuation ([Exhibit V2-10 Exercise Reports items 1-2](#)). The small-scale exercises are carried out at 10:00hrs every Thursday and the large scale is carried out at least once a year unannounced.

Future plans include a Carbon Dioxide (CO<sub>2</sub>) recovery from the flu gas of the methanol reformer plant has been approved. This environmental project will further reduce the release of CO<sub>2</sub> gas to atmosphere. Making GPIC one of the few plants world-wide to have virtually "Zero" CO<sub>2</sub> emission. A Capital Expenditure Project (CAPEX) proposal has been raised in 2007 to procure a refrigerant recovery unit. This will reduce the environmental damage caused by leakage or disposal of refrigerants and help in resource conservation.

The Electrical Maintenance department replaced 80% of the Mercury Vapor street lamps in GPIC complex with a new sodium vapor lamp. The remaining will be replaced during 2007. This helps in reducing the energy consumption and in turn, the conservation of natural resources ([Exhibit V2-11 Examples of Energy Saving Projects Planned and Executed](#)).

### **3.7 Employee Empowerment and Involvement**

GPIC is an open organization which works towards getting the very best from its employees benefiting from everyone working to their potential. The organization is such that any employee has a number of opportunities and paths he/she can use to put forward ideas or concerns. The first stop is the Supervisors and Superintendents. Then there is the "**Suggestion and Improvements Program Committee (SIPC)**" which is electronic and ideas can be tracked as they are being evaluated. A financial reward system for best suggestions is implemented within the organization.

The three committees SC, management appoints HC and EC members but also, there is a call for volunteers to serve on each of the committees and there is no shortage of volunteers.

The Behavior Based Safety is the flagship for determining the road to safety in the future using empowerment, GPIC believes in:

- Sustainable behavior change, and subsequent culture change, hinges on change in employee's behavior at all levels;
- Behaviors are the markers of attitudes/beliefs and are amenable to change through observation, feedback and the removal of barriers to safe behavior;
- Employee participation and ownership of this process is essential

With a firm belief in the employees and their aptitude to change and embrace such culture, GPIC is fully committed and embarking on BBS.

### **3.8 Motivation, Behavior and Attitude**

At GPIC there is great emphasis put on the “One team Spirit” which is reiterated at all gatherings whether training sessions or presentations. The GEM and the Annual Employee awards go a long way to promote the “One Team Spirit” and this is extended to employee's families.

All employees' family members are invited to visit GPIC's in-house environmental projects. More than 500 people registered and visited the complex. Tours started on 26.01.06 and continued for three Thursdays. More than 1200 people made up of employees and their families attended the SHE Family Evening held during Ramadan. ([Exhibit V1-11, 12 & 13 SHE Week events](#))

### **3.9 Employee Competency Building**

Investment in employees is a core value and as such GPIC spends greatly on training for employees. As explained earlier a Human Resources Specialist has been appointed to develop a comprehensive program comprising a competency framework and a succession plan for the next decade. As a further development in providing state of the art facilities to employees, an e-Learning Centre has been established at GPIC. It has proved very popular and everyone is encouraged to take part. ([Exhibit V2-12 E-Learning Program](#)). All employees are encouraged to partake in Continuous Personal Development (CPD) training centre maintain full personal details of each employee. GPIC's investment in training increases on average 25% each year.

## **4.0 .PERFORMANCE MEASUREMENTS AND INFORMATION MANAGEMENT**

### **4.1 Performance Measurement**

At GPIC's the performance measurement and information management of aspects of the business is very important and is carried out through planning, monitoring and follow-up at all levels within the organization. The establishment of objectives, and Key Performance Indicators (KPIs) are an integral part of GPIC's integrated SH&E management system ([Exhibit V1-17](#)).

Other aspect's of GPIC's SH&E measurements are the findings of the site inspection and audit reports, the feedback of the SH&E committees, which meets monthly; the recommendations and suggestions of GPIC's insurers reports e.g. Marsh 2008 available on site, also reflect how these aspects are incorporated. Collectively with the results of the regular medical check-ups conducted by the Medical Center on all employees; and the GPIC's SIPC system that captures the employees' contributions toward the enhancement of SH&E matters.

As an additional means of ensuring compliance to occupational health and safety, GPIC utilizes the audit reports of ISO 14001 & OHSAS18001:1999 as an indicative measure of such compliance. The findings of these reports are incorporated in the company's planning process of enhancing safety. Active monitoring of SH&E performance is seen as vital to GPIC utilizing a traditional approach of accident and incident investigation with greater than normal emphasis on root cause(s), analysis, and control is fundamental. The aim is to prevent recurrence of the same or other incidents in the future. The GPIC approach is however further re-enforced by paying special attention to the reporting of "Near misses" and observations relating to "unsafe conditions or acts" through an electronic incident investigation system. Further more there are intensive site audit and inspection program (25 safety, 3 environmental and 4 health and hygiene audits in 2006), which are aimed at identifying potential hazards and eliminating them ([Exhibit V2-9 Status of SHE Inspections](#)).

Reporting of "Near Misses" is promoted through the allocation of monthly prizes for employees or contractors who identify such situations. ([Exhibit V2-13 Safety Performance over the Last 9 year's](#)) is a table showing the Showing Safety Performance over the Last 9 year's recorded through the various channels. The system complies with the United Kingdom's Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR '95), which came into force on 1 April 1996.

RIDDOR '95 requires the reporting of work-related accidents, diseases and dangerous occurrences. A boost to GPIC's safety performance was the carrying out of the largest, most expensive and labour intensive Turnaround in November 2007. Despite all the high numbers there were reductions in the number of accident and incidents and injuries ([Exhibit V2-14 Comparison of Turnarounds](#)).

Investigating of SH&E matters over and above what are stated above, ([Exhibit V2-15 items SHE-HEA-12, SHE-SAF-13 & SOP-EMS-00-01](#)) shows in detail GPIC's accident/incident reporting and investigation system. Further, this system is audited by BSI as part of OHSAS18001:1999 accreditation and is updated accordingly to fully comply with any recommendations or requirement changes. The same exhibit shows GPIC's detailed system of identification, assessment and control of environmental aspect, impact and objectives. The last part of the exhibit is GPIC's General Guidelines for Occupational Health which not only stipulates the company's method of identifying health related issues, but also investigates all new issues and their prevention.

With regard to absence due to sickness, a number of programs are being implemented to ensure obtaining positive results in 2006 and beyond. Referring to ([Exhibit V2-13 Safety Performance over the Last 9 year's](#)) note 7 of the Table, it is clear that GPIC is taking the issue of sickness absence seriously despite being at least 2% lower than the national average in Bahrain. Some of the programs to enhance this aspect of GPIC's activities are:

- 1) Promoting a healthy life-style by encouraging all employees to make active use of GPIC's Club and its gymnasium facility. An award is established for the person who mentors the largest number of newcomers into the program.
- 2) Providing all the employees with flu vaccination to ensure that flu related sickness is minimized;
- 3) Encouraging a "Healthy Personality Award" for people with zero sick leaves;
- 4) With the help of the University of Bahrain who have carried out two surveys during December 2006. One was to establish life-work balance and employees' feedback on this issue. The other is to assess employees' morale and overall satisfaction, the results have not been returned at this time.

Reviewing and reporting on SH&E issues, the external reporting to stakeholders is done through GPIC's newsletter and annual report. Please refer to GPIC's 2007 annual report available at <http://www.gpic.com/default.asp?action=category&id=57> Further, through OHSAS18001:1999 internal and external audits, GPIC is able to review it's SH&E performance on a regular basis including quarterly review of all KPIs . As explained above GPIC carries out objective and honest benchmarking



exercises which are another means of reviewing the company's performance against other businesses. Consequently, GPIC participates in Safety Award Schemes such as the RWC Campbell and RoSPA schemes and utilizes the feedback to enhance its performance. A further performance mapping GPIC carries out is to compare its position against other similar industries. ([Exhibit V2-4 Benchmarking](#)) shows GPIC's position vs 10 other producers in the Arabian Gulf region.

## **5.0 SH&E RESULTS**

GPIC started a Behavioral Based Safety (BBS) program to further improve and enhance its "SAFETY OBSERVATION" culture. Significant success is given to BBS during the Turnaround 2007 which was a major shutdown which replaced major parts of the plant. It was the most expensive, used the greatest number of contractors resulting in more man-hours ([Exhibit V2-14 Comparison of Turnarounds](#)) and was a major success in reduction of accidents particularly injuries. Also has set a benchmark for future Turnarounds when looking at Behaviour Based Safety ([Exhibit V2-16 Details of some BBS observations](#)).

The SHE Inspection/Audits are still being carried out; however over time the number of undesirable conditions observed, during routine inspections/audits has reduced as testimony to their effectiveness. It is still planned to continue with the present Inspections/Audits, however the introduction of BBS is viewed as an enhancement which will allow GPIC to coach and further improve safety, whilst pushing to achieve higher stands (Continual Improvement).

As explained earlier each January the SH&E Committee sets KPIs for SH&E and these are monitored throughout the year. At GPIC Leading Indicators are used as a metric to drive and measure activities with the aim to prevent and control injury, damage or loss. Measured and monitored effectively, they provide data to enable effective intervention to address or reverse a negative trend before it results in injury, damage or loss such as injury statistics or other, provide an overall estimate of the progress required to achieve GPICs' vision of Zero Harm. However they do not measure the effective implementation of safety programs, proactive action plans and preventative activities in place. It is a belief within the company that if lagging indicators are used as the only index of safety achievement (or failure), they can do more harm than good, as people are not empowered to take control of safety and to

develop an effective organizational safety climate. It is important that a mix of leading and lagging indicators are used to measure overall safety effectiveness and performance.

The use of a greater proportion of leading indicators at individual and department levels reinforces personal involvement and improves the perceptions individuals and work teams have about their control and management of injuries. Key to this is the promotion of Near Miss Reporting and rewarding diligent employees who report the most Near Miss Incidents.

GPIC now looks at positive rewards given to employees for loyal and safe service and the number of employees have been honored nationally on the 1<sup>st</sup> on May and each year the number of GPIC employees has increased ([Exhibit V2-17 Employees Honored on 1<sup>st</sup> May](#)). An incentive scheme to help promote safety has been introduced to encourage people be seen doing the right thing with regard to safety the “Safety Star Rewards scheme”. Safety star points can be earned by reading “Safety Matters Newsletter” or a BBS Observer if he/she sees good safety work can award that person or persons with points. These points can be exchanged for prizes and at the end of the year we will announce who earned the most points in each department, determine which department earned the most points and all indications are that it is generating positive competition.

Although production has been rising over the last four years energy consumption has reduced. The savings attributed to an insulation program and de-bottle-necking of some of all processes. GPIC use two standards of recording the energy usage in metric tonne produce of product - Giga calories per metric tonne (G cal/MT) and Million British Thermal Units per metric tonne (MM BTU/MT). Both these are units are used for measuring energy per unit quantity of a product. It provides an idea of the inputs required to make one unit of product or how efficiently it is made/ produced. These are standard terms widely used in petrochemicals and fertilizer industry and for bench marking. ([Exhibit V2-18 Graphs showing Energy consumption](#))

## **6.0 LINKAGE BETWEEN SH&E AND BUSINESS PERFORMANCE**

As explained through out this case study there are no greater priorities for GPIC than the health and safety of our employees, contractors, suppliers, customers and local communities, and the protection of the environment. GPIC is committed to excellence in managing all these areas through normal business practice assisted by it’s SH&E function as GPIC firmly believes good SH&E results in good business.

SH&E policies and procedures are the responsibility of the DGM assisted by the SH&E Committee. Such policies and procedures are implemented across the business by everyone. All employees work with the SC, HC and EC to ensure that GPIC has deliverable policies that are active in its risk management and encompass all SH&E issues. GPIC has well-established programs to drive improvement in SH&E performance. Employees are required to comply with all external regulations and the company's policies and Code of Conduct. Suppliers are expected to meet minimum standards set by GPIC's ethical purchasing policy ([Exhibit V2-7](#)).

SH&E management standards, procedures and tools are embedded in the company by the integrated management systems and standards (IMSS). IMSS outlines the standards and actions needed to align with, or conform to, internationally accredited certifications of as ISO 9000, ISO 14001 and ISO 18001. In 2004, GPIC completed the implementation of OSHA's Process Safety Management to augment its already robust and solid SH&E management system. The company voluntarily chose to comply with this standard as it deemed it an enhancement to the existing system. Since 2004 GPIC's SH&E system was accredited with the certification to OHSAS18001:1999. This accreditation not only affirms the continual improvement process that GPIC's SH&E system is undergoing, but also boosts the confidence of GPIC's customers and stakeholders in the company's commitment towards SH&E. Although it is extremely difficult to establish a direct correlation between profitability and SH&E performance, GPIC is confident that the relationship between the two core business initiatives is strongly bound.

GPIC's process plants are audited annually for SH&E compliance, both internally and externally. Both the internal and external assessments rank each plant out of 10 (with 10 equivalent to excellent and not having any SH&E deficiency), with the latter conducted by an invited panel of safety professionals representing the industry in Bahrain. Taking 60% of the internal score plus 40% of the external accumulates the final score for each plant. The results of 2005 assessments ranked the plants as follows: Utilities 9.43 out of 10; Urea 8.32 out of 10; Methanol 8.4 out of 10; and Ammonia 9.22 out of 10.

The conventional approach towards linking SH&E and business performance is mainly covered through claims paid by the company as fees and fines due to legislations or labor compensation cases and other costs involved with lost time accidents and medical coverage. This is not the case with GPIC as all lost time accidents that occurred from 1999 to 2005 involved minor cases that did not incur any costs and

only involved time away from work ranging between 1 and 3 days for 5 individuals involved in such accidents.

A good measure of SH&E performance is insurance premiums paid by the company. GPIC, despite a very turbulent and extraordinary political situation in the Arabian Gulf region, has enjoyed most attractive and competitive insurance premiums over the last four years, with virtually no change in premium paid. To illustrate this point, the total premium paid in 2002 was US\$2,573,000; in 2003 it was US\$1,932,000; in 2004 it was 2,302,000; and in 2005 it was US\$2,004,000. This represents an average of US\$2,202,750 for that period, mainly due to outstanding SH&E performance and the confidence of the insurers that GPIC is a low risk enterprise. ([Exhibit V2-19 Financial relationship with HS&E performance](#)) PIO statistics and its relationship with HS&E performance. There are many factors, which influence profits but as the profits have increased the spending on SH&E has also increased which shows a greater monetary investment in SH&E.

The strength of GPIC's SH&E philosophy stems from its leadership belief and commitment that "Good SH&E performance is good business" and investment in this field is actually an investment in creating value for the company's shareholders. Accordingly, a wide-spectrum of initiatives and events are created and sponsored to ensure that SH&E initiatives receive the attention, care and support they require. They also ensure that whatever initiative is started is made part of the existing management system.

The final example of how GPIC link SH&E initiative to the business performance is the company's adoption of the concept of "triple bottom line". This entails that the company not only focuses on profit, but also ensure that it pays equal attention to its social responsibilities and SH&E initiatives ([Exhibit V2-20 Donations to Charities & Organizations](#)). This business philosophy stems from the management's firm believe that the overall business performance of the company must be looked upon holistically and responsibly. Profits are indeed important and the company has demonstrated a healthy growth of it over the last few years. However, whilst maintaining such growth in profit, the company continued its equal focus on its social responsibly and commitment to SH&E initiative.

## 7.0 CONCLUSIONS AND PATH FORWARD

GPIC is unique in many ways, it has state of the art technology which allows GPIC to maintain consistently high quality standards. It has clear Values which form the GPIC Mission, Vision and Corporate Values ([Exhibit V2-21 Mission, Vision, Values](#)). The leadership is very hands-on from the Board of Directors, to the vibrant GM head of the Executive Management team; he has vision and passion to set GPIC as a “Role Model” for Industry in Bahrain, the Gulf States and into Asia. The ambition is to build an open, learning organization where employees are actively encouraged to suggest ideas and experiment. One of the major factors is the outstanding top level leadership of SH&E. This has resulted in the company effectively participating in the drafting of legislation and regulations related to SH&E. There is a positive influence, which GPIC has had on the continuing development of SH&E legislation and culture within Bahrain and has a commitment to embed such values in the continuing development of the society and push to the rest of the Gulf States.

Another mission of GPIC is to ensure the SH&E features strongly in all the Associations that GPIC belong i.e. IFA, AFA and GPCA the most recent initiative being championed by GPIC is “**Responsible Care®**” and this to be brought in across the Gulf Region. The Management is determined to synthesize the best from worldwide SH&E standards to build a truly robust risk management regime, the various steps of which have been taken is to involve all members of the workforce and to involve employees’ families.

At a social level it is determined to be involved with community providing donations to charity and sponsoring many events including sports and conferences. Aid has also been given to health related organizations in form of money and equipment.

GPIC has an outstanding level of commitment and professionalism in the management of SH&E at work. The investment in people is highly valued in GPIC and to maintain a highly skilled workforce great emphasis is put on training programs. In 2007 \$2.4 million was spent on training. The company is committed to an holistic approach to SH&E and the company as a whole.

GPIC continues to prove and recognizes that the success of an industrial enterprise is not only measured in profitability but by the extent of their compliance with the health, safety and environmental systems and quality standards and the contribution to the community as a whole is the holistic way forward.