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QATARGAS

THE PIONEER

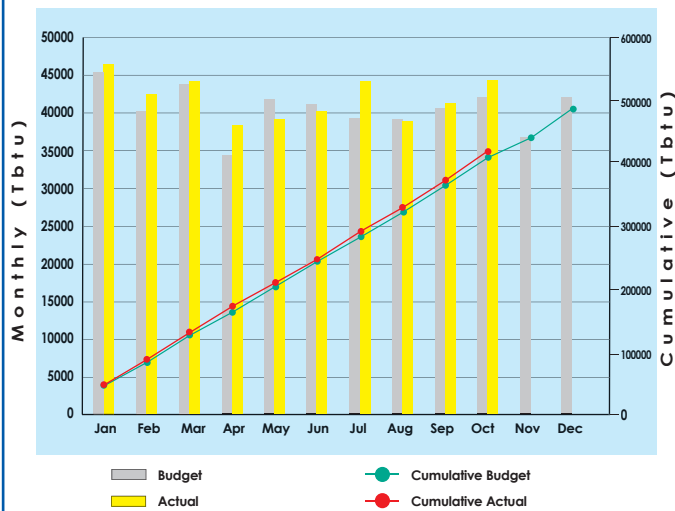
The magazine of Qatargas Operating Company Limited



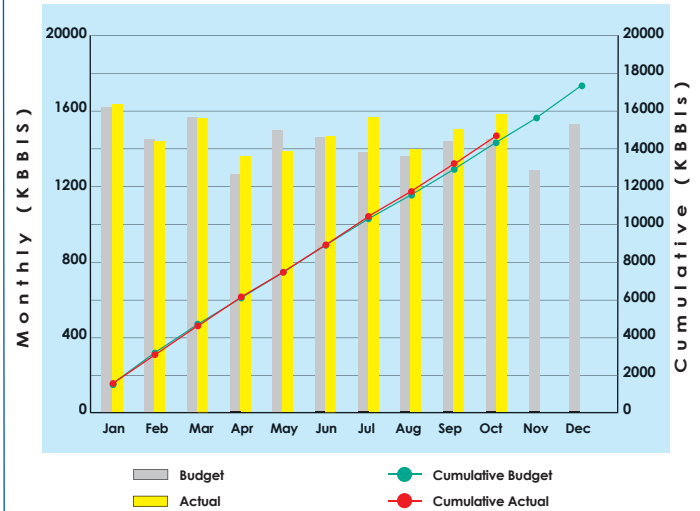
Q-Flex – the first of the new fleet
is delivered

Scorecard 2007

Net LNG Production 2007



Field Condensate Production 2007



Qatargas SEQ Monthly Safety Statistics

Event Description	Qatargas	Contractors
Date of last LTA	1-Jul-02	26-Apr-03
Days worked since last Lost Time Accident	1,917	1,618
Personnel hours worked since last Lost Time Injury	11,713,000	8,150,689
Hours worked since last Lost Time Injury (04-26-03)	18,087,460	

Event Description	Qatargas		QG 2007 Business Plan Targets		Contractors	
	Current Month	Year to Date			Current Month	Year to Date
Number of Lost Time Accidents (LTA)	0	0	0	0	0	0
Number of Medical Treatment Cases (MTC)	0	3	0	0	0	6
Number of Occupational Illnesses (OI)	0	3	0	0	0	4
Number of First Aid Cases (FAC)	0	4	0	0	0	7
Number of Off the Job Injuries (OJI)	0	1	0	N/A	N/A	
Number of Major Fires	0	0	0	N/A	N/A	
Number of Minor Fires	0	5	0	N/A	N/A	
Number of Vehicle Incidents	1	5	0	0	1	6
Number of Env. Releases	0	1	0	N/A	N/A	
Number of Env. Spills	0	3	0	N/A	N/A	
Number of Moderate to High Risk Potential Incidents	8	52	100	N/A	N/A	
Number of Incident Notification	20	233	> 275		N/A	
Number of STOP cards	92	2015*	> 4000		N/A	
Days Lost due to LTA	0	0			0	0
Hours Worked this Month	172,872				72,384	
Hours Worked this Year	1,521,920				561,440	
Hours Worked combined (QG/Contractor)			2,083,360			
	Year to Date		Industry Benchmark		Year to Date	
LTA Frequency Rate	0.00		0.20		0.00	
LTA Severity Rate	0.00		2.40		0.00	
Total Recordable Incident Rate	0.39		N/A		2.14	

Our aim is to create an "Incident and Injury Free" site at Qatargas. However, for statistical purposes, targets for motor vehicle incidents and medical treatments are based on Year 2002 actual figures.

Except for Near Miss Reports, we encourage reporting of all near misses so that the hazardous conditions can be eradicated as soon as possible, through corrective actions.

Total near miss cases also include those derived from different categories of incidents/accidents reported such as medical treatment, first aid, minor/major fire, vehicle incidents, spill/release etc.

These derived near misses were also included in the "Total Near-Miss reports" due to their potential to escalate into more serious incidents.

Please note the attached graphs giving an annualized overview of KPI statistics.

* Corrected figure.



Q-Flex LNG ships – a pioneering achievement

In September, four of the 45 large LNG ships to be delivered for Qatar were named at special ceremonies held in Korea. The Q-Flex carriers “Al Ruwais”, “Al Safliya”, “Al Gattara” and “Tembek” will be used to ship LNG produced by Qatargas 2, Train 4 to customers in Europe.

These ceremonies marked the beginning of a new era not only for Qatargas, but for the world LNG business as a whole. With 50% larger cargo capacity and 40% lower energy requirements and carbon emissions compared to conventional vessels, these new ships will set new benchmarks in LNG shipping.

These new vessels have many innovative features to maximize cargo deliveries and to ensure the highest levels of safety and reliability.

The most distinguished technological breakthrough is the onboard LNG re-liquefaction plant.

The Q-Flex and the larger Q-Max vessels will be propelled by a pair of slow-speed diesel engines which run on fuel oil thereby eliminating the requirement for cargo boil-off gas to be used in the propulsion system. Instead, the boil-off gas will be re-liquefied by the onboard plant and directed back to the cargo tanks. All this leads to high efficiency and economy which enhances profitability significantly.

The Qatargas shipping project team and the shipyards have jointly worked hard to build these ships safely and on time. This achievement is the result of the determination, teamwork and commitment to safety on the part of all those involved in the project.

In the coming months, we will start receiving these new ships. By the end of the decade and with the completion of the expansion projects and the induction of the Q-Flex and Q-Max vessels to our fleet, LNG from Qatargas will be shipped to all parts of the world.

While we work hard towards achieving our targets on time, we must never lose focus on our most important priority – safety.

Faisal M. Al Suwaidi
Chairman and Chief Executive Officer

Qatargas' first four Q-Flex ships named



“Qatargas and ExxonMobil pioneered the development of this new class of LNG carrier, making it possible for liquefied natural gas from Qatar to be shipped to all corners of the world”

- HE Abdullah Al-Attiyah, Deputy Prime Minister and the Minister of Energy and Industry

September was an eventful month for Qatargas. Three separate ceremonies were held at the ship building yards in Korea to name the first four of the fourteen Q-Flex LNG vessels being built to service Qatargas Trains 4 and 5.

At the first ceremony held on 7th September at Daewoo Shipbuilding and Marine Engineering Ltd. (DSME) yard in Goje Island, Qatargas named the first

two Q-Flex vessels, Al Ruwais and Al-Safliya.

The ceremony was presided over by His Excellency Abdullah Bin Hamad Al-Attiyah, Deputy Prime Minister and the Minister of Energy and Industry and Mr. Neil Duffin, President of ExxonMobil Development Co.

Speaking on the occasion, HE Abdullah Bin Hamad Al-Attiyah said; “Qatargas and

ExxonMobil pioneered the development of this new class of LNG carrier, making it possible for liquefied natural gas from Qatar to be shipped to all corners of the world. Today we see the results of this pioneering vision and the hard work of many people to deliver these ships to us safely and on time.”

Mr. Faisal Al Suwaidi, Chief Executive Officer of Qatargas Operating Company

“We are delighted to be here today to celebrate the naming of our first two Q-Flex vessels. It is a tribute to Qatar’s vision and the hard work of many people. I would like to thank the team at DSME, our project team and partners for their commitment to helping us deliver energy to the world”

- Faisal Al-Suwaidi, Qatargas Chairman & CEO

said: “We are delighted to be here today to celebrate the naming of our first two Q-Flex vessels. It is a tribute to Qatar’s vision and the hard work of many people. I would like to thank the team at DSME, our project team and partners for their commitment to helping us deliver energy to the world.”

Three days later, on 10th September, the ‘Al Gattara’ was named at another ceremony held at Hyundai Heavy Industries ship building yard in Ulsan.

The ceremony was presided over by Mr. Ahmed Al Khulaifi, Qatargas

Chief Operating Officer – Commercial & Shipping and Mr. Dennis Houston, Executive Vice President, ExxonMobil Refining and Supply Company. Mrs. Cathia B. Houston officially named the ship.

“Today is the first such ceremony in Hyundai Heavy Industries for Qatar’s new fleet of LNG vessels and we are proud to be celebrating this achievement with OSG, HHI and all the people who have contributed so much to make this project a reality”; said Mr. Al-Khulaifi.

At the third ceremony held on 11th

September at Samsung Heavy Industries ship building yard in Geoje Island, the ‘Tembek’ was officially named.

The ceremony was presided over by Mr. Ahmed Al Khulaifi, Qatargas Chief Operating Officer – Commercial & Shipping, Mr. Morten Arntzen, President and Chief Executive Officer of OSG and Mr. Angus Campbell, Head of OSG Gas. Mrs. Naomi Campbell officially named the ship.

Mr. Al-Khulaifi, Chief Operating Officer – Commercial & Shipping said of the event; “Today is the first such ceremony



ACHIEVEMENT

“I would like to congratulate all involved for the outstanding achievement of 1.2 million hours worked without a lost time injury to date. I would like to encourage all the teams to continue to work together to deliver this ship without any lost time injuries”

- Ahmed Al Khulaifi, Qatargas Chief Operating Officer – Commercial & Shipping

in Samsung Heavy Industries for Qatar’s new fleet of Q-Flex LNG vessels and we are proud to be celebrating this achievement with OSG, SHI and all the people who have contributed so much to make this project a reality.”

Continuing he commented; “SHI, OSG and the Qatargas teams have all worked hard to deliver this ship to its naming ceremony not only on time but also safely. I would like to congratulate all involved for the outstanding achievement of 1.2 million hours worked without a lost time injury to date. I would like to

encourage all the teams to continue to work together to deliver this ship without any lost time injuries.”

All the four vessels will be used to ship LNG produced in Qatargas 2, Train 4 to customers in Europe. The Q-Flex vessels have a capacity approximately 50% larger than conventional vessels with about 40% lower energy requirements and carbon emissions due to the economies of scale created by their size the efficiency of the engines.

The Al Ruwais and Al Safliya are owned

by a consortium of Qatar Gas Transport Company (Nakilat), Pronav and German investment companies whereas the Al Gattara and Tembek are owned through a joint venture between Nakilat and OSG. Qatargas will charter these vessels from the owners.

Similar to Qatargas’ existing fleet of eleven LNG vessels, the names of the new vessels also represent cities and areas in Qatar. These four ships are the first of the 45 large LNG ships (Q-Flex and the larger Q-Max) to be delivered for Qatar. ■



World's largest integrated LNG Supply Chain Management System implemented



Qatargas Business Scheduling department determined in 2004-5 that existing business tools used within Commercial and Shipping for planning, scheduling and sales administration would fall short of meeting the future needs of Qatargas and Ras Laffan City

Ras Laffan City is currently experiencing an unprecedented growth in the history of the energy business with expected production from the North Field to be around 25 Bcf/d of North Field gas by 2010 compared with 7-8 Bcf/day currently.

In that context of fast growth in size and complexity, Qatargas Business Scheduling department determined in 2004-5 that existing business tools used within Commercial and Shipping for planning, scheduling and sales

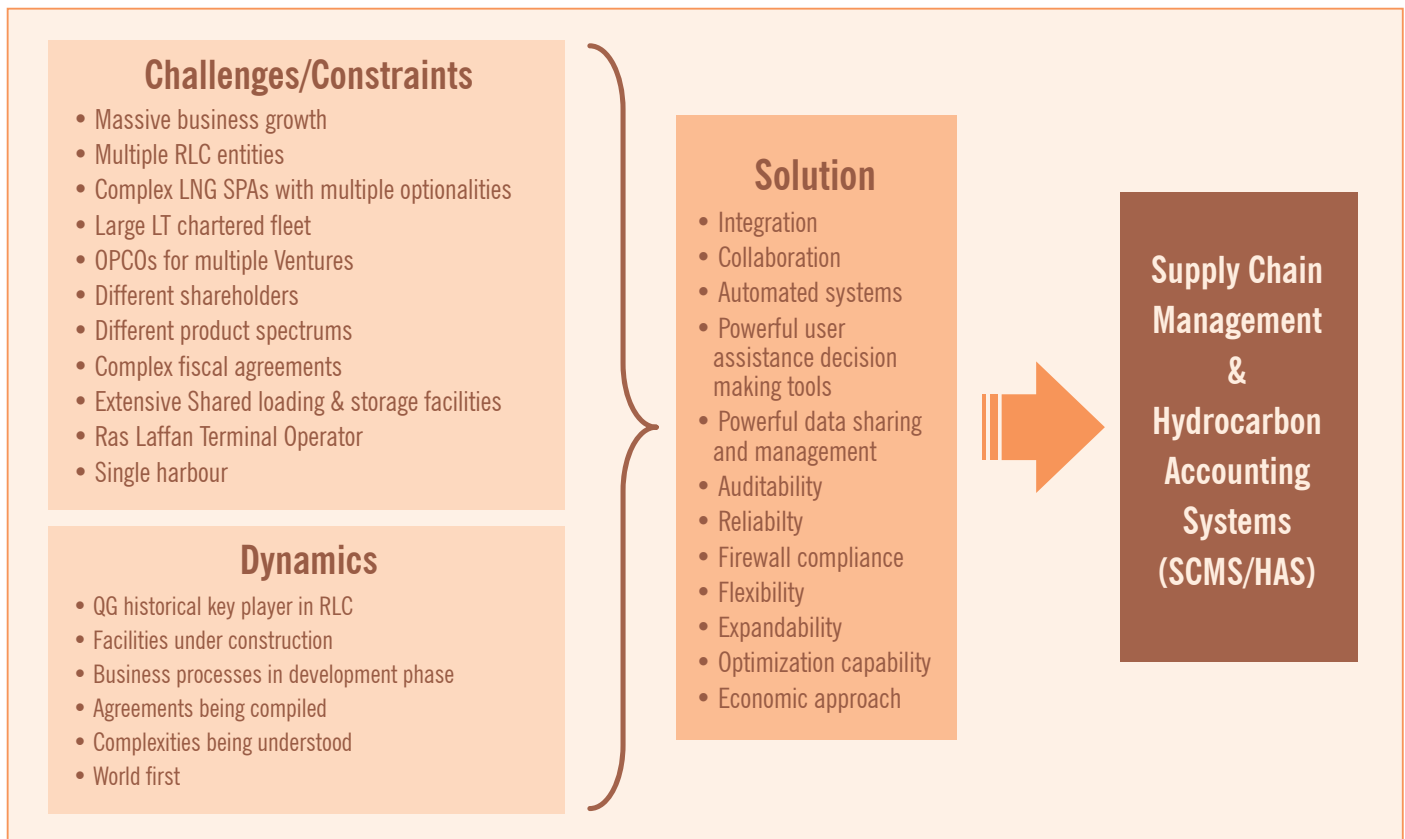
administration would fall short of meeting the future needs of Qatargas and Ras Laffan City.

Around that time, Commercial and Shipping formed a study team led by Business Scheduling to review internal business processes and identify streamlining opportunities. The result of the study highlighted the benefits of an integrated supply chain management system (SCMS) coupled with a hydrocarbon accounting system (HAS). The result was the launch of

the QG Integrated Business Process Tool (IBPT) initiative in 2005.

The need for such systems was also recognized by RasGas who had already implemented a hydrocarbon accounting system in 2001. In late 2005, a joint Qatargas and RasGas team was formed to foster a joint integrated SCMS and HAS project. The excellent teamwork produced an approach which was endorsed by Qatargas, RasGas and Ras Laffan City Senior Management.

TEAMWORK



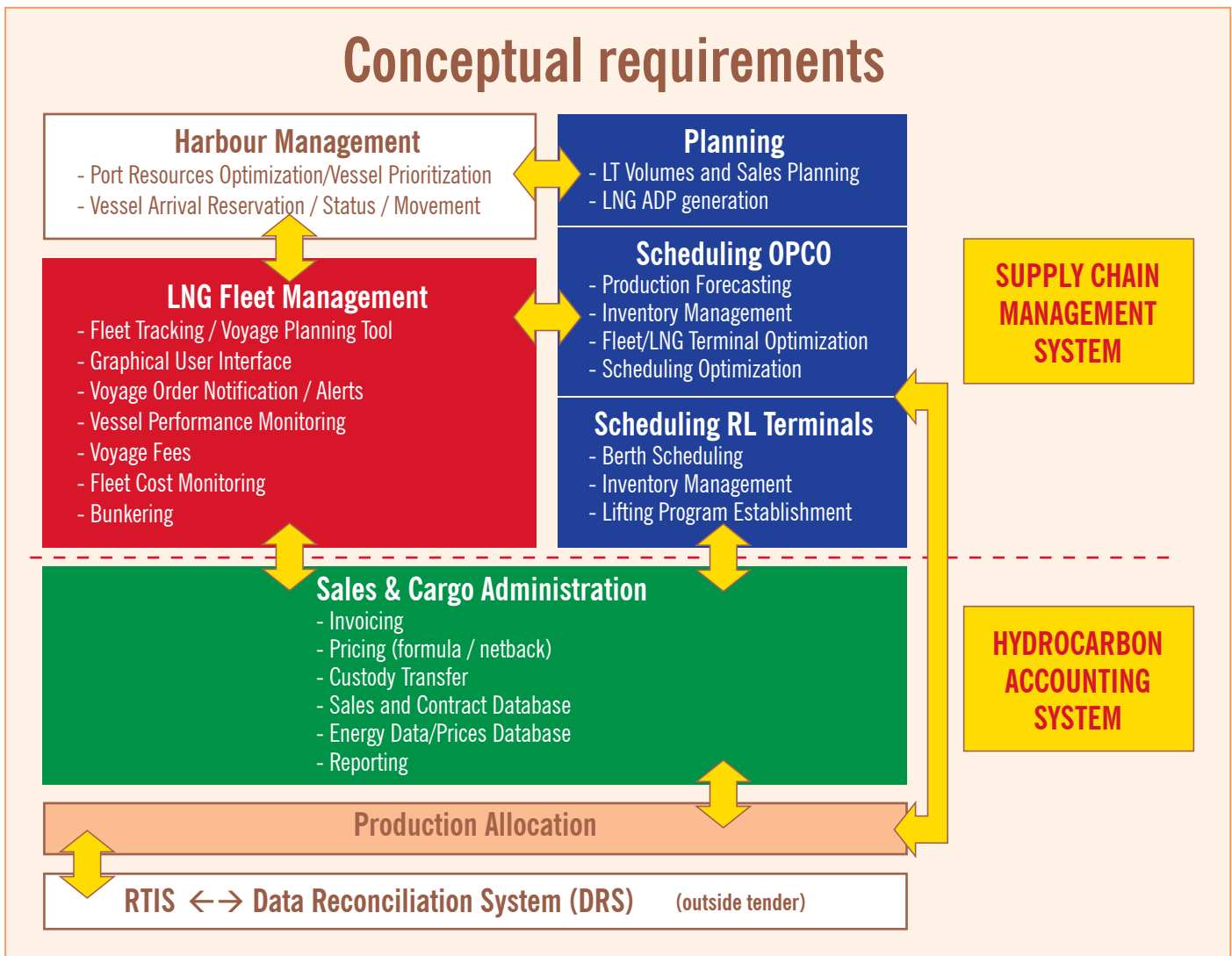
Part of the work that the team completed was to identify the different business challenges and constraints to be faced and what dynamics should form the basis of any future systems. This work was fed into the design of the solutions for the future system which had to address the coverage of

LNG/hydrocarbons supply chain from wellhead to discharge terminal, the integration of LNG/hydrocarbons sales and administration, the integration of LNG fleet operation and administration processes with planning and scheduling processes, the extensively collaborative environment between Ras Laffan City stakeholders to properly optimize

the use of common port, storage and loading facilities and the need to introduce production allocation tools within Qatargas.

An extensive review by Qatargas and RasGas determined the need for five modules to be tightly integrated as illustrated in the following page.





Once the parameters of the design solution were known, the team was able to work on selecting the right solution for the various RLC companies.

The selected solution covers a Supply Chain Management System to be implemented by Honeywell integrating various existing specialized tools from different vendors, a Hydrocarbon Accounting System to be implemented by TietoEnator using their existing Energy Components software and an overall integration service to be managed by Honeywell.

The Supply Chain Management System (SCMS) will comprise a production, lifting and inventory management tool which will form the backbone of the collaborative data sharing and management environment amongst Ras Laffan City entities. It will be supplemented by a LNG fleet operation and administration management tool, a LNG fleet scheduling optimization tool and a Ras Laffan Port berth scheduling optimization tool. A standalone long term planning tool will also generate high level long term

business plan production and delivery forecasts (up to ten years ahead).

The Hydrocarbon Accounting System (HAS) will comprise a production allocation tool, a custody transfer and sales and cargoes administration tool and a sales invoicing generation and royalty calculation tool.

Both SCMS and HAS will have specific functionalities associated with Qatargas' role as Ras Laffan Terminal Operator.

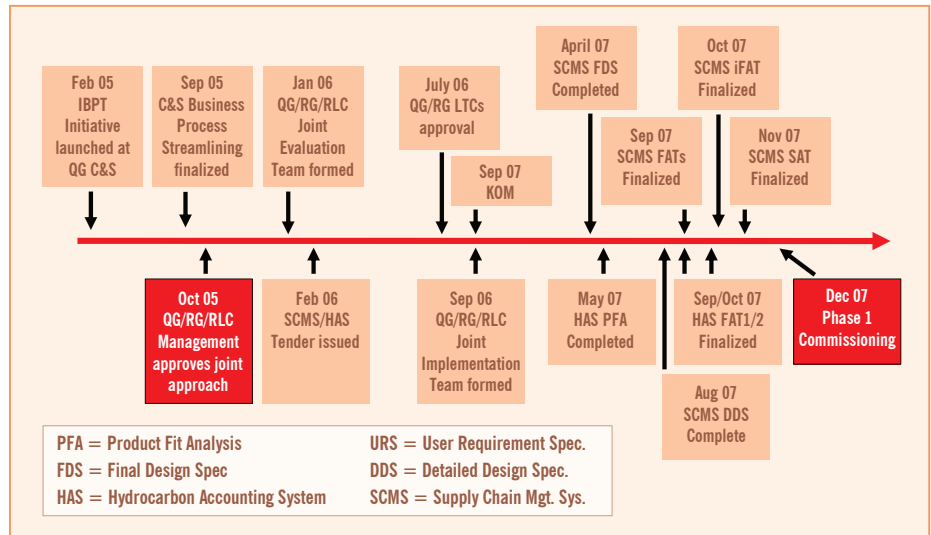
The Phase 1 implementation has several phases and the project has currently reached the first stages of acceptance testing.

TEAMWORK

The SCMS factory acceptance tests for the individual modules were finalized during summer 2007 with reasonable results given the complexity and the tight schedule. Punch/Action list items were re-worked to prepare the integrated factory acceptance test planned for October/November 2007, with site acceptance test to follow shortly. The first HAS factory acceptance test occurred in September 2007 with positive outcome. A second one is to follow in early November.

The project team and Qatargas and RasGas IT departments will be fully engaged with the vendors throughout November 2007 to prepare for commissioning of Phase 1 planned in December 2007.

Qatargas and RasGas are also now discussing with the vendors the future project phases as part of Long Term Framework Agreements to provide full system support and maintainance, end-users training and solution



development for the additional phases jointly identified for the next five years. The implementation of the Qatargas and RasGas Supply Chain Management and Hydrocarbon Accounting System constitutes one of the largest and most ambitious business system development projects ever launched in the LNG industry.

The project has the capability to deliver a pacesetter solution and establish a 'best practice' standard. It will provide the essential backbone for the global export of all hydrocarbons from Ras Laffan and as such will significantly contribute to the reliability and efficiency of energy deliveries from Qatar to the world.



Qatargas adapts pace setting environment technology

Qatargas has introduced Pulse-Chlorination™ into its cooling seawater systems and has become the first company in the Indian Ocean region to research and use this pace-setting technology.

The new technology has been in place and running successfully for a few months at the Qatargas 1 liquefied natural gas processing plant in Ras Laffan City.

This new innovative technique allows Qatargas to reduce the amount of chlorine added into the cooling seawater by over 50%. It reduces blockages caused by fouling.

The system has seen the close collaboration between the Environmental Affairs, Engineering and Operations divisions of the company.

Control of biological fouling in the cooling system, by the addition of chlorine, is critical to allow a smooth and trouble free operation of any industrial plants using seawater for cooling. The environmental and operational benefits gained from Pulse-Chlorination™ lead to injecting less chlorine into the cooling seawater system.

Through utilizing Pulse-Chlorination™ the chlorine producing equipment should operate more efficiently and the time intervals needed between inspection and maintenance may increase, thereby reducing the amount of waste to be disposed, in addition to operational and emissions related performance improvements.

One of the drivers for this project is that

the state environmental regulator has been incrementally reducing the maximum chlorine concentration permitted in discharged cooling seawater from 0.2 to 0.05 milligrams per liter. To put this into perspective the concentrations are much lower than the concentration found in recreational swimming pools or that used to disinfect drinking water.

Pulse-Chlorination™ represents one of the Best Available Techniques (BAT) within the European Union for seawater chlorination. By adopting this new technique Qatargas significantly reduces the environmental footprint that cooling seawater has on the marine environment in and around its operations.



Qatargas e-Learning Center awarded certification

The Qatargas e-Learning Center, located at the Qatargas Headquarters in Ras Laffan Industrial City has been awarded a Certificate of Approval in accordance with the British Association of Open Learning guidelines.

The e-Learning Center which opened in July of this year has been assessed and approved by Atlas Interactive Limited, a leading supplier of quality online learning programs to Oil and Gas majors throughout the world.

Mrs. Deborah Yeats and Mr. Graham Harker of Atlas Interactive came to assess the Qatargas e-Learning Center and assured it was up to the standards of quality expected in an industrial learning environment. Mr. Donald Birch, QG e-Learning Administrator, accepted the certificate on behalf of the company. "The e-Learning Center is in its infancy and we can expect that in the future much of our learning will



be done online rather than the traditional classroom. It will be a valuable supplement to the more traditional learning methodology already deployed." Mr. Birch said.

Courses currently offered in the e-Learning Center include online English for national employees as well as soft skills and technical courses for all employees.

Mr. Shimizu, Executive Officer of Chugoku Electric Power Company Incorporated, Japan, accompanied by other dignitaries from Chugoku Electric and Mitsui & Co visited Qatargas on Thursday 11th, October 2007.



French senators delegation visits Qatargas



A high ranking delegation of French government senators visited Qatargas on 7th September. They were welcomed on arrival by Jacques Azibert, Chief Operating Officer – Operations.

The visitors were given a presentation about Qatargas followed by a tour of the plant and Ras Laffan port. They were able to have a panoramic view of the massive expansion going on at the

port area from the port control tower. At the end of the tour the visitors thanked Qatargas for hosting them and expressed their admiration at the rate at which Qatargas was growing. ■

A delegation of Qatar Petroleum personnel led by Mr. Ahmed A. Khaja (Manager– Gas Production) paid a visit to the Qatargas North Field Bravo Platform on 30th August 2007. The visit was aimed at sharing operational experience between North Field operators. A wide range of topics including corrosion management, maintenance inspection & planning and SHE procedures were discussed.



Safety milestones for QG3&4

The Qatargas 3 and Qatargas 4 Projects achieved a significant safety milestone of over 10 million man-hours worked from 18 June 2007 to 28 July 2007, without a Lost Time Incident, on its construction sites at Ras Laffan.

Ensuring safe work in Qatar's harsh summer was a monumental challenge that makes this record even more exceptional.

According to Mike Britton, Senior Project Manager, this is a noteworthy milestone to be achieved so early in the QG3&4 construction period.

He said: "The real achievement is the improvement I see each time I visit the site

in terms of morale, and the reduced level of stress and anxiety in the workforce. The workers believe that their management and Qatargas management genuinely care about them and that we are collectively focused and committed to ensuring that each and every person on site goes home safe every day." Mike appreciated the support the workforce was giving to an Incident and Injury free environment.

Meanwhile, the Offshore Facilities Project also chalked up one million man-hours with an LTI since the Project started. This commendable achievement signifies exemplary working practices by the QG3&4 Offshore team, and the contractors working

on the Project, the principal one being J. Ray McDermott.

Offshore Facilities Manager, William H. Boyington, said, "Project management is proud to have such a professional and safety conscious team. They are the reason that Qatargas is becoming well known as a world leader in the LNG markets, and is recognized as setting goals to which other projects aspire.

"We aim to continue our zero LTI record into our second year of execution. Let's all maintain our vigilance and take every possible step to ensure an Incident and Injury Free Project."



‘Heart of Plant’ arrives at Ras Laffan

A massive cryogenic heat exchanger has been delivered successfully to the Qatargas 3&4 construction site at Ras Laffan City.

The unit will be located in Train 6. When completed, the train will be able to produce 7.8 million metric tones of Liquefied Natural Gas (LNG) per annum. Train 7 will also produce the same amount of LNG.

The 45.78-metre long, 290-tonne heat exchanger is used in the process that cools gas to -160 degrees Celsius. This transforms it to a liquefied state, making it suitable to be shipped in tankers.

The heat exchanger was delivered by ship to Ras Laffan City before being loaded onto a special heavy-duty transport vehicle for the final stage of its journey.

Commenting, QG3&4 Onshore Project Manger, Jim Gardiner, said, “The heat exchanger is the heart of the plant – it is where the gas becomes liquefied. The delivery was achieved safely and on schedule, and this achievement represents excellent teamwork from everyone involved.”

Offshore: 38-inch pipeline delivery ahead of schedule

Ahead of schedule the Offshore Facilities Project has taken delivery of its third load of 38-inch pipeline at the Ras Al Khaimah yard in the United Arab Emirates. The

40,000-tonne delivery arrived from Nippon Steel of Japan. Each one inch thick, pipe section is now receiving anti-corrosion treatment and concrete coating in order to

stabilize the pipeline when it is in place on the seabed. Two 65-kilometre pipelines are being constructed to bring gas from the North Field to Ras Laffan. ■



Heat stress prevention and worker welfare are top priorities at Qatargas 2 projects

The summer months in Qatar can produce temperatures and humidity levels that can lead to heat stress and heat related illnesses which are serious health concerns. Some of the more common illnesses seen are heat exhaustion and heat cramps. If left unchecked, these “early symptoms” can progress to a more serious stage: heat stroke.

The best way to prevent heat related illnesses is to ensure that workers remain properly hydrated and take adequate rest breaks. For the Qatargas 2 workforce, now exceeding 25,000 working in Ras Laffan on a daily basis, this has been a monumental task. It took extensive planning, implementation, and strong management commitment to keep our workers safe from the dangers of heat stress. The Management Team incorporated rigorous heat stress prevention efforts including the use of defined programs incorporating work/rest cycles, the construction of numerous shaded rest shelters, plenty of cool water for the workers’ use and the provision of personal water flasks which are easily carried with them for their use during their work days.

New-hire workers received safety induction training including heat stress illness prevention. Each day workers were reminded of heat stress prevention efforts during the pre-work Tool Box Talk sessions which are routinely part of their daily work task planning. In many cases, additional training was conducted on an ad-hoc basis, such as during management safety walkthroughs, to evaluate and maintain continuity of the program. Communications of “heat alerts” were sent by SMS to all supervisors and managers to inform them of the current regimens for work/rest cycles, recommended water intake, and applicable work type restrictions. This alert method allowed managers and supervisors to be informed



immediately and to help ensure that the word got to all workers as early as possible. Additionally, multi-language signs were strategically placed to aid in communicating what the corresponding alert work/rest cycles are and what work is limited during the alert phase such as discontinuing work at heights, work in shaded areas only, and the recommended water consumption amounts during the phase.

During Ramadan, heat stress illness prevention efforts were enhanced to allow shortened work days to accommodate the Muslim supervisors and workers. Extra rest breaks were encouraged. Where possible, work re-assignments and adjusted schedules allowed more work under shade.

Worker welfare is very important for the thousands of workers who live in camps at RLC. QG 2 have considered the importance of improving worker welfare through various means, including ensuring that camp conditions meet our standards. The quality of food is a major focus, and QG 2 recently funded the enhancement of meal programs. This includes the addition of fresh fruit, juices, eggs, and ice cream to the regular meal

menu. Not only has this been enthusiastically accepted by all workers, thus improving morale, it has the added benefit of improving the chances that workers will consume a nutritionally balanced diet which can positively impact their work performance and lessen the chances of them suffering from illnesses including heat stress. The construction of additional recreational facilities, including additional sports fields, internet cafes, and theaters has also been well received and are enjoyed by many workers each day. Recently the Asia City Recreational Complex opened to allow the use of sports fields, theaters, and other entertainment venues for QG expansion projects’ personnel.

Another recent enhancement that has proven to be very successful is secondary medical screening of workers by the QG Medical staff to diagnose and treat conditions that may have negatively impacted their health and well being if gone undetected and untreated.

The project wants its workers healthy for their time here and to go home in better health than when they first arrived: A win-win outcome for the worker and the project. ■

Construction progresses on Laffan Refinery project

Smooth progress continues on the Laffan Refinery Project with only one Lost Time Incident (LTI) after working more than 11 million man-hours. The Contractor, a consortium of GS & Daewoo, maintains a high regard for safety while progressing the construction work.

The Laffan Refinery Project encompasses a condensate refinery to process 146,000 bpd and will produce mixed LPG, kerojet fuel, naphtha, gas-oil, and Sulfur. In addition, new storage tanks are being built for the feedstock and existing tanks will be refurbished to handle the refinery end products.

A key element of the Laffan Refinery Project is the Tank Farm. Construction is focused on completing the initial phase by mid-December of this year. Qatargas and RasGas condensate can then be routed to the five new 80,000 cubic meter tanks

which have been erected and tested, and are now nearing completion.

At the Tank Farm, pumps have been set in place, piping is being finalized and tested, cables pulled, and preparations are being made for the initial pre-commissioning and commissioning activities.

In order to achieve a smooth handover and startup, a task force has been formed which involves all of the interfacing groups – the Project Management Team and Contractor, Ras Laffan Terminal Operations, Qatargas Start-up (ESU) team, and RasGas. After some period of smooth operations of the new tanks, the existing tanks can be cleaned and refurbished in preparation to receive end products once the refiner starts.

At the Refinery Site, progress has been made with the largest column – Condensate Tower C1201 – having been installed. Several other columns have also been

installed and civil work continues in preparation for the significant cable pulling and piping installation activities. Installation of the Control System has commenced and detailed work is being done on the interfaces with existing systems.

In addition to the Tank Farm and Refinery sites, there is also work on the Amine area inside the Qatargas area, and major pipe work to be accomplished on the Breakwater Jetty. The PMT and Contractor remain focused on the target startup of the Refinery in August 2008.

Besides this significant construction effort, Front End Engineering and Design (FEED) for a gantry loading facility for WOQOD operations have begun. Also, a feasibility study for possible future expansion of the refinery has been awarded to Jacobs Engineering (London) with the report expected in the latter part of this year. ■



Why safety belts?

To understand the value of safety belt use, it's important to understand some of the dynamics of a crash. Every motor vehicle crash is actually comprised of three collisions.

The car's collision

The first collision is known as the car's collision, which causes the car to buckle and bend as it hits something and comes to an abrupt stop. This occurs in approximately one-tenth of a second. The crushing of the front end absorbs some of the force of the crash and cushions the rest of the car. As a result, the passenger compartment comes to a more gradual stop than the front of the car.

The human collision

The second collision occurs as the car's occupants hit some part of the

vehicle. At the moment of impact, unbelted occupants are still travelling at the vehicle's original speed. Just after the vehicle comes to a complete stop, these unbelted occupants will slam into the steering wheel, the windshield, or some other part of the vehicle interior. This is the human collision.

Another form of human collision is the person-to-person impact. Many serious injuries are caused by unbelted occupants colliding with each other. In a crash, occupants tend to move toward the point of impact, not away from it. People in the front seat are often struck by unbelted rear-seat passengers who have become high-speed projectiles.

The internal collision

Even after the occupant's body comes to a complete stop, the internal organs

are still moving forward. Suddenly, these organs hit other organs or the skeletal system. This third collision is the internal collision and often causes serious or fatal injuries.

So, why safety belts?

During a crash, properly fastened safety belts distribute the forces of rapid deceleration over larger and stronger parts of the person's body, such as the chest, hips and shoulders. The safety belt stretches slightly to slow your body down and to increase its stopping distance.

The difference between the belted person's stopping distance and the unbelted person's stopping distance is significant. It's often the difference between life and death. ■

Source: website for the National Safety Belt Coalition

