EGYPT OIL&GAS NEWSPAPER

Coming Decade's obstacles hindring progress of the Petroleum sector

Discussion surrounding Egypt's supply and production of petroleum and natural gases has been heating up steadily over the past several years. As a vital yet decidedly limited market in the region, the petroleum sector faces some serious challenges, prompting a series of conferences, reforms and debates to be held by ministers, heads of state, and industry leaders

By Clarissa Pharr

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Another rig burned and sunk

You may have heard the news about the Deepwater Horizon drilling rig, which caught fire, burned for two days, and then sank in 5,000 ft of water in the Gulf of Mexico.

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So long our beloved gas!

"We have to stop exporting Gas instantly," replied an official petroleum source angrily when asked the late power cuts due to the shortage of gas supplies to the power stations, condemning the Israeli deal

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Efficient compression solution for CO2 Capturing and Sequestration, Enhanced Oil Recovery and Enhanced Gas Recovery

Anthropogenic CO2 emissions are among the most unwanted side effects of civilization. However, industrial solutions are at hand for capturing and sequestration of CO2.

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EGPC, EGAS and BGGM to settle the conflict

The Egyptian Natural Gas Holding Company (EGAS) held an agreement with both GDF and BGGM to settle the deficit in gas supply to both companies.The shortage happened due to the failing of both EGPC and EGAS to deliver the amount of gas agreed on. The reason behind that is the unavailability of gas costumed for export from Edko station.

The agreement included waiving the prices differences due to EGPC and EGAS from BGGM. Those prices were in exchange of the deviation in the gas shipments away from the port agreed on before, which consequent the increase in the price of gas shipments for the vendors that have not been settled since 2005 till now as there is a disagreement between EGAS and BGGM on how to distribute some of the expenses.

OSUCO in a re-discovery mission

Offshore Shukair Oil Company (OSUCO) started to conduct geological studies in the context of the company's drilling plan during the current fiscal year of 2010-2011, as an attempt to identify the drilling locations and reassess the North Shukair field, located in its acquisition area in South of Gulf of Suez.

The company aims at recovering from its drilling failure in some of the development and exploratory wells in the previous fiscal year of 2099-2010.

Egypt Oil & Gas newspaper (EOG) learned that the company attempts to fix the layers of exploratory wells, in a try to open new layers. The total cost of these studies will reach $ 150,000, hoping to place it on the production line soon.

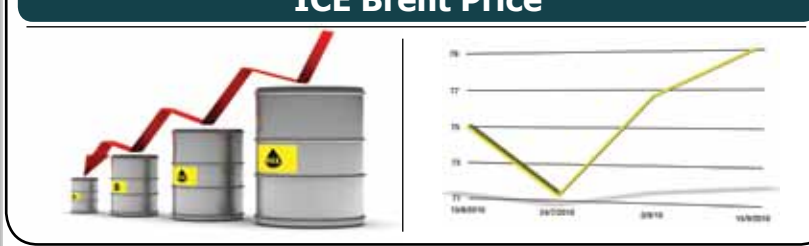
It is worth mentioning that the current rate of crude oil production from offshore North Shukair is 1500 barrels per day.

Apache awaits fortune in Kalabsha

Apache Corporation is on the verge of a new commercial exploration in the area of West Kalabsha in the Western Desert after it has finalized the drilling operation of the West Kalabsha I-x3 well and the electrical well log. These records showed that the two layers of Safa and El-Buieb which contain an economical quantity of hydrocarbons.

The sum amount of the well's investments reached nearly $4.6 million. Egypt Oil & Gas newspaper learned that Apache utilized the EDC59 rig in drilling the well. In addition, the rig's daily rent cost $15.000. Moreover, the total depth of the well is 15250 feet and it took Apache 50 days to firm up the drilling process.

ICE Brent Price



A glimpse of hope

In the middle of the electric blackouts dilemma, questions have been raised wondering for how long would the country be able to cover the fact that "we do suffer from a gas shortage"? The tight domestic gas supply has not solely affected our daily life, but also it has contributed to a great extent to the slow down of national industrial growth.

Although the government has been modifying the terms of agreements when needed to attract more investments and holding licensing rounds as incentives for E&P investors, investment and exploration and development activity began to slow due to high costs of offshore development and limited amount of production that could be exported to global markets. However, investment and exploration and development activity began to slow due to high costs of offshore development and limited amount of production that could be exported to global markets.

Bringing a glimpse of hope to this gloomy mood, a recent report by the U.S. Geological Survey (USGS) declared that Egypt's Mediterranean waters contain significant offshore oil and gas reserves that have yet to be produced. According to the report's estimates, the reserves count for 1.8 billion barrels of recoverable oil, 223 Trillion cubic feet of recoverable gas, and 6 billion barrels of natural gas liquids in the Nile Delta Basin province of the eastern Mediterranean Sea region. USGS estimated the undiscovered oil and gas resources of the Nile Delta Basin Province as part of a program aimed at estimating the recoverable oil and gas resources of priority basins around the world. The Nile Cone assessment unit, which lies Egypt's offshore mid-water region, is by far the largest resource with an estimated mean volume of 217,313 Bcf of gas and 5,789 million bbl of natural gas liquids. The previous figures reflect the hopeful relief of this gas dilemma, yet the government still needs to reconsider its gas exportation commitments and find out means to built its gas infrastructure base for the optimum utilization of our reserves.

Ironically, while writing this note, there were two cut-offs of electricity! The mood of optimism that dominated my thoughts has faded away. Unfortunately, a state of mistrust has found its way between most citizens and the government, which led to doubt for any near long-term solution to be implemented by the decision makers. Hence, shall I be keeping my optimistic view or… ?

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El Hamra Oil to develop more in Alamien

El Hamra Oil Company revealed its preparations to develop three new wells in its acquisition area in El Alamein. The company will be using the Electric Submersible Pump, which is used in oil production to provide a relatively efficient form of "artificial lift", able to operate across a broad range of flow rates and depths, by decreasing the pressure at the bottom of the well (by lowering bottomhole flowing pressure, or increasing drawdown), significantly more oil can be produced from the well when compared with natural production.

The pumps are typically electrically powered and referred to as Electrical Submersible Pumps (ESP). IPR, El Hamra Oil foreign partner, is still to decide the total budget for the ESP.

Mohamed Abdel-Monem, General Exploration Manager in El-Hamra Oil Company, told Egypt Oil & Gas newspaper that the total cost of last year's drilling operations, which included the drilling of two exploratory wells, reached nearly $8 million.

"We continue to conduct the technical studies to resolve the amount of crude oil in the well's layers, after finalizing the 3D seismic survey," stated Abdel-Monem.

"The total investments of this study will reach $200,000 as we aim to increase the current crude oil production rate that stands at 1300 barrels per day," added Abdel-Monem.

It is worth mentioning that El Hamra Oil currently produces 1300 barrels of oil per day.

El Waha to try another operating system

El Waha Petroleum Co. (previously known as OWAPCO) is studying the implementation of water injection project in collaboration with Weatherford Company.

The project targets the water injection of specific layers of the exploratory and development wells in Qarun Field, in its acquisition area in West Qarun, as El Waha is turning some of its producing wells to water injection operating wells.

According to official source, the company plans to install water injection pipelines from offshore well at Qarun Field to water injection wells. The first phase of this project is scheduled to start during the Q2 of the current fiscal year of 2010-2011.

It is worth mentioning that El Waha is a joint venture company between EGPC and Sahara Petroleum Services Company (SAPESCO).

Abu Qir looks for a new rig

Abu Qir Petroleum Company is to set a bid round to rent a rig to execute the new drilling plan for the current fiscal year of 2010-2011 in Abu Qir field in its acquisition area at North Abu Qir.

"Our drilling plan includes the drilling of two exploratory marine wells, especially after the success of the 3D seismic studies that helped increase the reserves of the North Abu Qir field," Gamal Eldin Bayomi, General Exploration Manager in Abu Qir, told Egypt Oil & Gas newspaper.

Bayomi added that the total investments of the two wells cost $40 million.

He also added that the company drilled four development wells, all in the area of North Abu Qir concession, except one in the Abu Qir-5, with total investments of $70 million, during the past fiscal year of 2009-2010.

Abu Qir is a joint venture company between the Egyptian General Petroleum Corporation (EGPC) and Italian Edison.

Petro Alam to boost production

Alam El Shawish Petroleum Company (Petro Alam) is preparing to drill a new exploratory well, in the North West Gemsa Field, in its acquisition area of the Gulf of Suez.

This drilling operation is part of Petro Alam's drilling plan for the current fiscal year of 2010-2011.

Omar Abdul Rehim, Chairman and Managing Director of Petro Alam, said that the total investment of the new well would cost up to $5 million approximately.

Abdul Rehim added, in exclusive statements to Egypt Oil & Gas newspaper, that the company is working on the water injection project to open new gas lines from the company's fields to reach Suez Oil Company (SUCO). "Our company is aiming to boost its production to reach 15,000 barrels of oil per day from our acquisition area in the Red Sea."

It is worth mentioning that Petro Alam is a joint venture company between the Egyptian General Petroleum Corporation (EGPC) and the Greek Vegas.

Kuwait Energy drills deep in the Western Desert

Eng. Osama Farouq, Vice President for Exploration and Development in Kuwait Energy Company, Egypt, told Egypt Oil & Gas newspaper in exclusive statements that the company succeeded to receive the EGPC approval to drill four exploratory wells in the Abu Sinan concession in the Western Desert, after extracting the needed permits.

The total cost of drilling is $6 million, as the company conducted a market survey to rent a rig of 2000hp due to time constraint, as it must carry out a tender to do that.

Al Anbaa, the Kuwaiti newspaper, recently announced that the company considered the previous exploration in that area as the biggest of its kind.

Egypt Oil & gas newspaper also learned that Kuwait Energy drills the deepest wells in the Western Desert area, at the depth of 18,400 feet. The first test will be conducted at a cost of $7 million using SHENGLI BOHAI's rig of a 2000-hp capacity.

Kuwait Energy announced that this exploration contains high oil and gas reserves with lofty commercial importance and a promising develop in the oil production. Besides, it will positively reflect on the growth of revenue and the level of profitability. The newspaper also pointed out as well that the presence of two big Canadian and Australian companies in the same block.

The well was recently placed on the production line with a rate of 2500 barrels of oil per day; Kuwait Energy owns 700 barrels of it, located in Zahra area in Ras Qattara block.

It is worth mentioning that Kuwait Energy is a private company that was founded in 2005 as an independent entity for exploring and producing oil and natural gas in the Middle East and North Africa and considered one the most growing companies in the Middle East.

Active season of deals...

Eng. Sameh Fahmy, the Egyptian Minister of Petroleum, has signed sealed three new agreements, over last month.

The Egyptian General Petroleum Corporation (EGPC) teamed up with GANOPE to sign the contracts in the Western Desert area. The primal deal between EGPC and Apache and Dana Petroleum, located in East Beni Suef, to add more exploration sessions with commitments of minimum spend of $12.5million, to drill more wells, and a Signature Bonus of $6 million.

Thomas Voytovich, VP Region of Apache, and Brian Twaddle, Dana Petroleum Country Manager, were there to sign the deal on behalf of their companies.

The other agreement is in Faiyum district, between EGPC and Merlon Petroleum Company represented by the country Manager Eng. Moustafa Shaarawy, which would add more search sessions with commitments of minimum spend of $24 million to drill six new wells, and a Signature Bonus of $3 million.

The final agreement was for GANOPE, which will drill for the first time in its history, in the area of Gilf Al-Kebir Al-Awinat in south west the Western Desert, with commitments of minimum spend of $8 million including 2D seismic survey and to drill two new expletory wells. Eng. Sherif Ismail, CEO of Ganope, was there to sign the agreement.

Sureclean initiates its MENA base in Egypt

Sureclean, the international industrial cleaning and waste management firm, has announced expansion into the North Africa and Middle East region with the launch of a new base in Egypt to serve the Egyptian oil & gas industry.

Within days of the Sureclean facilities opening in Egypt, projects with major drilling contractors were secured for offshore cleaning and water-jetting services. Moreover, more than $2 million has been invested in equipment for the region to ensure that the firm continues offering the same high levels of service to clients wherever in the world they operate.

"North Africa and the Middle East has emerged as an important growth market for Sureclean," Paul McAlister, Sureclean Business Development Director, said.

"Our presence in Alexandria and Cairo will ensure we have resources in place to meet the needs of the market. Winning our first contracts so quickly is a clear indication of the high demand there is for our services," McAlister added.

Richard McDonald as Business Development Manager North Africa, said, "Following an intensive market due diligence process, on evaluation of the business and market challenges, Egypt was identified as the location for Sureclean to service the North Africa and Middle East territories."

Sureclean specializes in High Pressure (HP) and Ultra High Pressure (UHP) water jetting and its associated applications, tank and vessel cleaning, vacuum transfer and pumping, coating application, asbestos management, and waste handling and treatment solutions. Sureclean's jetting technology can be used for a range of diverse applications including NORM decontamination, de-scaling, surface preparation, cold cutting and high pressure pumping operations both on and offshore.

New Oil Pipelines Company to be set up

A new oil pipelines company will be set up to confront challenges of the private sector importation of oil products and the needs of development plans, Minister of Petroleum Eng. Sameh Fahmy said.

The oil sector will do its best to increase Egypt's wealth and up oil and natural gas reserves and output, the Minister said at the end of a meeting of the general assemblies of private oil companies.

The Minister lauded the recent oil finding of the state-owned Egyptian General Petroleum Corporation (EGPC) in Amer field of the Gulf of Suez.

EGPC Chairman Sherif Sousa said the discovery has led to upping the company's reserves of crude oil to 1.2 billion barrel.

In mid August, a report said Egypt's oil and natural gas reserves shot up to their highest levels by standing at 18.3 billion barrels against 11.8 billion barrels in 1999-2000. The reserves are expected to hit 20 billion barrels within the coming two years.

IPR scores another Alam El Bueib discovery in Western Desert

IPR, and its partner, Sojitz Oil and Gas, have discovered another oil bearing structure in the underlying Alam El Bueib sands in the Yidma-Alamein License in Egypt's Western Desert. Nearly two decades after acquisition of the License and a recent high quality 3D seismic survey of the entire concession, and nearly 50 years of oil production from the Alamein Dolomite, the new deeper production is from a structural closure offsetting the Dolomite closure where new wells will be drilled and rim wells will be re-entered to help develop the closure.

The discovery well, Alexander-1 (AEB-3C), was drilled to a total depth of 13,800 ft to the Alam El Bueib formation. The well flowed 23.5°API oil naturally at a reported flow rate of 1,100 BOPD on a ½ in. choke. Alexander-1 was quickly turned to production at the Yidma-Alamein production facilities approximately 2 km away through its operating company El Hamra Oil.

Alexander-1 is the second discovery in a row for IPR in the AEB/Jurassic formations, as a follow up to the 2009 Zain-1X, the deepest oil well discovery (17,200 ft deep) in this basin, representing IPR's strategic expansion of the Yidma-Alamein oil producing reservoirs. IPR has already determined a new location from the high quality 3D seismic acquired over the license to optimize the reservoir of the tested column, as well as develop an additional deeper untested zone at a higher structural position.

Concurrent with the drilling of Alexander-1, IPR, through innovative re-evaluation of the Alamein reservoirs, discovered new reserves in the Dahab sands, initially flowing 900 BOPD naturally from a sand member in the uppermost section of the Upper Dahab sand and later 1,800 BOPD through a ½ in. choke when more perforations were added in the middle section of the same Upper Dahab sand.

"These results have exposed new stratigraphic complexities and exciting challenges in our reservoirs," stated IPR Chairman, Dr. M. K. Dabbous. "New studies are also underway to exploit this phenomenon as we continue to broaden the reserve base in the Yidma-Alamein asset. This opens up new vistas for exploration and production opportunities for the future for IPR," noted the Chairman.

BGP wins first Egypt contract

BGP was awarded a gravity survey project by Geofizyka Krakow at Bahariya Block in Egypt.

This is the first contract that BGP won in Egypt. With decades of experience and expertise in GME operation, BGP has the capability to fully meet the demands of the client in the complex and challenging project.

BGP is one of the worlds leading geophysical service companies, delivering a wide range of technologies, services and equipment to the oil and gas industry world-wide.

FDI slips 16% as oil investment dips

Foreign direct investment in Egypt fell 16% for the fiscal year 2009/10, pulled lower by slowing inflows to the oil and gas sector, the Investment Ministry said.

Foreign investment in the twelve months to the end of June was $6.8 billion, down from $8.1 billion in the same period a year earlier, the ministry said in a statement.

Transocean rig leaving Gulf of Mexico for Egypt

Another Transocean Ltd rig is leaving the deepwater Gulf of Mexico, still under contract with Statoil -- the fourth rig departure resulting from a moratorium on U.S. deepwater drilling.

The world's largest offshore drilling contractor said the Discoverer Americas would leave next week, becoming its second rig to depart the region since the disaster in April that destroyed the company's Deepwater Horizon.

An explosion on that rig, under contract with BP Plc, led to an environmental disaster and a U.S. moratorium on deepwater drilling, which the Interior Department said on Tuesday was unlikely to last beyond November 30.

Analysts have said they do not expect many more rigs to depart the region, so long as the moratorium expires on time.

Norway's Statoil will pay $486,000 a day for the Discoverer Americas in Egypt, or $4,000 more than before, when the new five-month contract starts in October. The rig is then due back in the Gulf of Mexico next March at the same rate, under a contract running until November 2013.

In July, Diamond Offshore Drilling Inc agreed with Devon Energy Corp to move a Gulf of Mexico rig to Egypt with a new operator, followed by Murphy Oil Corp moving a Diamond rig to the Republic of Congo until it can meet the Gulf of Mexico regulatory requirements and return.

Transocean said earlier this month that its Marianas rig was heading out of the Gulf of Mexico with Italy's Eni, bound for West Africa.

Before the moves, there were 30 deepwater rigs contracted for the Gulf of Mexico this year, including others owned by Noble Corp, Ensco Plc and Seadrill.

Quotes

"The quantities exported to Israel are very little compared to our total production. We provide, and will provide, needed quantities of energy for all existing and future power stations"
Eng. Mahmoud Latif, EGAS Chairman, denying EGAS denies price reduction on gas exports to Israel

"Egypt was identified as the location for Sureclean to service the North Africa and Middle East territories… Establishing the regional base means we now have a multi-skilled team and innovative, high-specification equipment close to a range of existing and new customers"
Richard McDonald, Sureclean North Africa Business Development Manager, on Sureclean initiates its Egyptian base

"We are delighted that the extensive work by our exploration team to define drillable prospects, followed by an effective drilling campaign, continues to produce positive results"
Dr. Hany Elsharkawi, President of Dana Gas Egypt, on the new discovery at South Abu El Naga

"We are quite encouraged by the continued success of the development drilling campaign in NW Gemsa and the anticipated rise in production and reserves from the planned waterflooding operations. The commencement of our completion and work over program in Al Baraka field should also result in a gradual increase in field oil production towards year-end"
Said Arrata, Sea Dragon Chairman and CEO, on NW Gemsa and Kom Ombo concessions

"Once this well is finished, we will consider the need for some injector support drilling before undertaking more appraisal and development wells"
Chris Green, Circle Oil Plc Chief Executive, on Egyptian well Al Ola-1X oil bearing

Egypt, China eye joint oil services firm

Egypt is studying setting up a company with China Petroleum & Chemical Corp (Sinopec) to provide oil services in Egypt, the Middle East and Africa.

Drilling has been an important area of cooperation between Egypt and China, which jointly established the SinoTharwa Drilling Company in 2005, the Middle East News Agency (MENA) reported.

China has invested heavily in some African states, but contributed just $60 million of the $8.1 billion in foreign direct investment Egypt attracted in the year to the end of June 2009, according to Egypt's Central Bank.

Circle Oil announces African progress

UK-based Circle Oil recorded its first operating profit during the first six months of the year on the back of increased production output from its North-West Gemsa permit, in Egypt.

The company posted a gross profits of $4.6 million for the first half of the year, compared to a loss of $1.3 million during the same period last year.

Circle posted revenues of $21.2 million during the six months to 30 June, compared to $3.5 million booked in the first half of 2009, with $20.1 million consisting of oil sales from the company's operations in Egypt.

It added that its share of production from its assets was between 3850 and 4150 barrels of oil equivalent per day.

Chairman Thomas Anderson said the company planned to increase production in Egypt and Morocco after commissioning a new pipeline early next year.

"We also hope to complete before the year-end a follow up 2D seismic study on the offshore Block 52 in Oman," he added.

"We are also planning small targeted 2D seismic programs on our onshore blocks in Tunisia to give us a better geological understanding in both permits."

Egypt to start production at 12 gas fields in 2010/2011

Egypt's petroleum ministry has decided to start production from 12 natural gas fields in 2010/2011 in order to meet growing domestic demand for natural gas, pan-Arab Asharq Al Awsat daily reports.

This will bring the country's output of sales gas to 6.7 billion cubic feet a day, the paper reports.

Average production of sales gas rose 9% in the first three years of Egypt's five-year plan running from 2007 to 2012 to about 5.8 billion cubic feet a day, a report by state-owned Egyptian Natural Gas Holding Co. "EGAS", said according to the daily.

Naftogaz extracts its first crude from Egyptian deposit

Naftogaz extracted its first 100,000 barrels of crude oil from Gharadig oil deposit at the Alam El-Shawish East block in Egypt, reported Ukrainian Journal.

This is the first overseas hydrocarbon extraction project ever carried out by the Ukrainian national energy company.

Naftogaz built a system of collection and shipment of crude extracted from Gharadig oil deposit. Egyptian General Petroleum Corporation has allowed the Ukrainian company to hold an early oil production of up to 2,000 barrels per day.

West Dikirnis Phase II Development Completed

During the first half of 2010, Melrose continued its active exploration and development work programme on its Egyptian acreage comprising the Mansoura, South East Mansoura and Qantara concessions onshore in the Nile Delta and the frontier Mesaha exploration concession in southern Egypt.

Production performance remained strong and during the first half averaged 39.2 Mboepd on a working interest basis, comprising 188.6 MMcfpd of gas and 6.6 Mbpd of oil, condensate and LPG. Net entitlement production averaged 15.4 Mboepd. The production was underpinned by contributions from our two main fields in the Mansoura concession, namely, West Khilala and West Dikirnis which had a combined average production rate of 24.0 Mboepd. The remainder of the production was obtained from eleven smaller fields, seven of which are in the Mansoura concession, three in South East Mansoura and one in Qantara.

Development activity focused on the implementation of Phase II of the West Dikirnis development plan which consists of drilling a number of horizontal wells and installing Liquefied Petroleum Gas ("LPG") recovery and Gas Re-injection ("GRI") facilities in order to maximize the recovery of hydrocarbon liquids from the field before ultimately converting it to gas production. The LPG fractionation plant was completed and commissioned in the first quarter 2010 and is currently producing around 43 tonnes of LPG per day and an incremental 550 bpd of condensate. Given the success of the plant to date, the Company is considering expanding the facilities to incorporate a refrigeration unit to maximize LPG recovery. The GRI facilities are now complete and around 20 MMcfpd of gas is currently being re-injected in to the reservoir. These two projects are designed to maximize the recovery of hydrocarbon liquids from the field but they also have a very significant positive impact on the environment since they have eliminated the need to flare gas at the West Dikirnis plant.

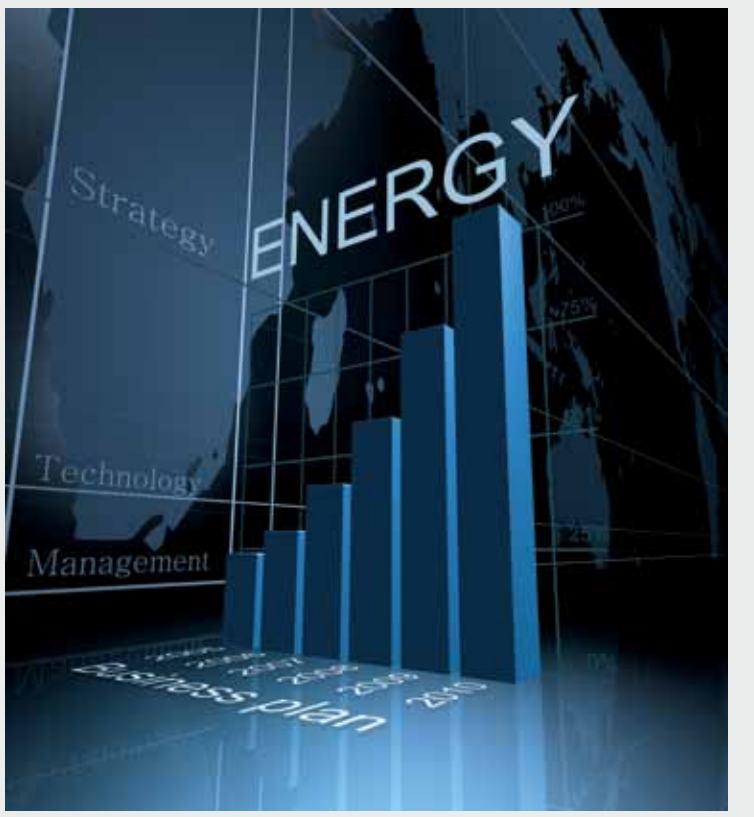
The Company is continuing to pursue a very active reservoir management programme in both the West Khilala and West Dikirnis fields and is planning to install compression facilities at West Khilala during 2011 to maximize the gas recovery. At West Dikirnis, it is planned to drill additional horizontal wells in the field in 2011 and 2012 based on the results of geologic and reservoir modeling studies.

Two new fields have been brought on stream in Egypt during the first half of the year. The first of these was South Damas, which was discovered in the South East Mansoura concession in February 2010. The discovery well encountered some 76 feet of net gas pay and the preliminary reserve estimate is 30 Bcf. The well has been tied back to the South Batra production facilities via the Damas field manifold and commenced production in June 2010. This represents a good illustration of the Company's ability to fast track discoveries onto production in Egypt utilizing the existing facilities and pipeline infrastructure at minimal cost (the unit development cost was an attractive 11 US cents per Mcf). In addition, in April 2010 a shut-in production well in the Salaka field was recompleted into a new untapped reservoir interval in the Kafr El Sheik formation with a net gas pay of 27 feet and estimated reserves of approximately 3 Bcf.

In parallel with this development activity, Melrose is pursuing an exploration strategy designed to produce a strong inventory of drilling prospects to sustain production and reserves in future years. In contrast to the Mansoura concession, the South East Mansoura concession is relatively under-explored and contains both Tertiary deltaic prospects in its northern area and Cretaceous prospectivity in the central area of the block. In the second half of 2010, Melrose plans to acquire a further 360 km2 of 3D seismic data and 160 km of 2D seismic data over this concession, increasing the 3D seismic coverage to almost 50 percent of the block area. The seismic campaign will focus on a geologic trend containing a number of Cretaceous oil leads which have been partially defined by previous seismic surveys and have unrisked resource potential of 70 MMbbl.

A 1,047 kilometre 2D seismic survey has also been acquired over the Mesaha frontier exploration concession in southern Egypt and the data has been processed and interpreted. Although the initial survey results were slightly disappointing, as the data analysis progressed the results became more encouraging and the overall basin architecture now appears consistent with the findings of earlier gravity and aeromagnetic surveys. In light of this, the work program in Mesaha in 2011 will include an infill 2D seismic program over the most promising area of the basin.

We are currently planning to recommence our exploration drilling program in the Nile Delta in the fourth quarter of 2010 and expect to complete one well on both the Mansoura and South East Mansoura concessions by year end. The first of these will test the Sakr prospect which has prospective resources of 32 Bcfe and a chance of success of 61 percent. The second well will target the South East Dikirnis prospect which is located close to the East Dikirnis field which was discovered in 2009 and is pending development. South East Dikirnis has prospective resources of 16 Bcf of gas and 1 MMbbl of oil and a chance of success of 32 percent. In the event of success, the discovery would be developed at the same time as East Dikirnis using a common flow line to tie both accumulations back to the South Batra plant.



Iraq's Gharraf Fields to be drilled by year-end

Iraq's Oil Ministry announced that the drilling operations would begin in the southern Gharraf oil fields by the end of this year, according to the reports from the Deutsche Presse-Agentur (DPA).

DPA quoted officials who said initial production levels of 50,000 barrels per day from eight oil wells are expected.

Japan Petroleum Exploration Co (Japex) and Malaysia's Petronas have committed to investing around $7 billion to develop the Garraf oil field. Japex will invest about $2.8 billion, with Petronas stumping up the rest.

The Garraf oil field, located in Dhi Qar governorate in southern Iraq, holds around one billion barrels proven reserves of crude oil. The field was discovered in 1984, but has never been developed. It is situated 5 kilometers northwest of Al-Refaei city, 9 kilometers southeast of Qal'at Suker city, and 85 kilometers north of Nasiriyah.

As part of their winning bid, the companies pledged to boost production from Garraf to 230,000 barrels a day in 2016 and accepted $1.49 for each barrel produced.

Petronas holds 45% stake in the venture, Japex owns 30%, while the remaining 25% sake is owned by Iraq's state oil company. The consortium won the bid and signed the contracts for the fields in late 2009.

The deal envisages 20 oil wells with an estimated daily output of 230,000 barrels over 20 years.

Aramco CEO: depending on fossil fuels may last for decades

"The forces of progress and development will be sustained in the future, and our planet's population will grow in the coming decades. Consequently, we will have to meet the world's increased energy needs, and do so in the most responsible manner," Khalid A. Al-Falih, President and Chief Executive Officer of Saudi Aramco, said in his keynote speech "Accessibility and Acceptability: Striking the Balance for an Optimal Energy Future" at the 21st World Energy Congress in Montreal, Canada.

Al-Falih addressed the global challenges confronting the energy industry and the need to provide affordable energy for future generations.

He stressed that the world will continue to rely on traditional fossil fuels to power economic development for decades to come. It is important to note, he added, that investments in the development of petroleum and in the technologies to make it affordable have helped to generate an unprecedented century of progress and prosperity.

Future generations would need all types of energy sources, and while the development of alternative and renewable energy sources is required, Al-Falih said that a pragmatic approach is necessary to create realistic and rational models of sustainability for future generations.

In that regard, he called for a multi-faceted framework, which better captures the practical reality of acceptability. In his speech, Al-Falih shared Saudi Aramco's experience and its wide range of activities and contributions in upstream, downstream, research and development to meet the world's energy's challenges today, tomorrow and for future generations.

Throughout its more than 75-year history, Saudi Aramco has continued to promote a strong culture of operational excellence, environmental stewardship and safety in all aspects of its operations, Al-Falih said in his address to an audience of key world energy industry leaders.

"Over the next five years, we are undertaking perhaps the most ambitious capital program in the petroleum industry, with an increasing proportion of those funds directed to the gas and downstream oil sectors," he elaborated.

"The positive impact of these massive investments will continue to be felt for many decades, and our capital program is designed to allow us to play our role vigorously and responsibly in furthering the supply of vital hydrocarbons to the world," Al-Falih added.

In his closing remarks, Al-Falih lauded the World Energy Council's work in furthering the global energy dialogue and told the delegates that today's decisions and actions must seriously consider long-term implications, and those actions must achieve the best possible optimal balance and results to benefit the greatest number of people around the globe.

Cooper farms-out Bargou permit in Tunisia

Cooper Energy farmed out 15% of the Bargou Permit in Tunisia to Jacka Resources Limited.

Jacka will pay a proportion of back costs and a promote on the drilling and testing of the planned Menzel Horr-1 and Hammamet West-3 wells. The total value of the transaction is estimated to be $12 million, based upon the estimated costs to drill and test the wells.

The Bargou permit is considered to be a highly prospective exploration and appraisal block.

The first well to be drilled in the permit will be the onshore Menzel Horr-1 well. The well is targeting the Menzel Horr Prospect, which has Prospective Resources of 24 million barrels of oil (P50). Menzel Horr-1 is expected to be spud in November 2010.

The second well that is expected to be drilled in the permit will be the offshore Hammamet West-3 well. The well is appraising the Hammamet West Oil Field, which has Contingent Resources of 49 million barrels of oil (P50). Hammamet West-3 is expected to be spud in 3Q2011, subject to rig schedules. The recently acquired high fold Hammamet West 3D seismic is demonstrating that the Hammamet West structure is 40-50% larger than previously mapped on vintage 2D seismic data. The increase in structure volume is ultimately expected to increase the Contingent Resources estimate. Recoverable volumes are currently under revision and the final numbers will be announced once the technical review is complete.

Michael Scott, Managing Director noted, "Cooper Energy is pleased to welcome Jacka into the Bargou Permit in Tunisia and is looking forward to a successful and productive Joint Venture. As the Operator we are aggressively pursuing the planned drilling activities and hope that with some geological success we can move prospective and contingent resources into reserves in the near future. We are especially encouraged by the Hammamet West 3D seismic results and we expect that the increase in the size of the Hammamet West structure will knock-on to increase the recoverable oil estimates. The Hammamet West-3 well is expected to spud next year and we look forward to locking in the well design and a jack-up rig in the near future."

Halliburton awarded Eni's Iraqi well contract

Halliburton has been awarded a contract by Eni to provide a range of integrated energy services toward the redevelopment of the Zubair field in southern Iraq.

Work for the multi-million dollar contract is underway. Halliburton will perform services such as wire-line logging, perforating, acidizing and well testing on 20 wells as part of the contract.

Earlier in last August, the company was awarded a Letter of Intent by Shell Iraq Petroleum Development BV to act as project manager for development of the Majnoon field, which is also in southern Iraq.

"We are committed to providing Eni the critical services required to deliver on its goal of expanding production over the next several years," said Dave Lesar, Halliburton's Chairman, President and CEO.

"Halliburton has made a strategic investment in our Iraqi infrastructure and the award of this contract, coupled with the recent letter of intent awarded by Shell and its partners, demonstrates that we have the technology and people in place to deliver in Iraq," he added.

Wind delivers close to 10% of UK's electricity

According to data from the National Grid of UK, production of electricity from wind reached a historical record on the 6th of October this year, with around 10% of all electricity delivered to consumers generated by the UK's wind farms.

UK's National Grid believes that if embedded wind generation (generation feeding directly into the low voltage local electricity networks by smaller wind farms) is taken into account wind generated about 10 per cent of GB's power during the 24-hour period.

This is not including the contribution from other renewables such as hydro, which contributed a further 4%, according to data held by Elexon, the balancing and settlement code company for Great Britain. The total UK consumption during the 24 hours was 809.5GWh.

Commenting on the news, Renewable UK Chief Executive Maria McCaffery said, "we are expecting to see the contribution of electricity from wind gradually increase over the next decade, to around 30% of the UK's total consumption. This news confirms that UK wind farm electricity yields are the best in Europe, and comparable with established technologies such as hydro. These figures underpin the strong contention that renewable energy - and wind energy in particular - is no longer alternative. It is on the scale and growing rapidly."

The UK currently has 4,616.05MW of installed wind energy across 263 wind farms, with a further 2,716MW in construction and 6,126MW with planning consent. The industry has highlighted that added together this represents 13.5GW about to come on stream in the next few years. A further 10GW of wind energy projects in the planning system awaits determination.

"If we added together all the wind energy projects in planning to the projects already existing and about to come on stream, we would be three-quarters of the way to reaching our 2020 targets. If we count in the tremendous potential of offshore wind, the plan of turning UK into a net energy exporter does not seem unlikely," concluded McCaffery.

CSIP develop the world's first lightweight electric manipulator

Since the launch of the market's first 5 Function Electric Underwater Manipulator Arm, CSIP, a UK based company specializing in the design, development and manufacturing of remote controlled robotic systems for hostile environments, has developed a lightweight version of the product.

The ARM 5E has created much interest from major companies involved in offshore operations. Using mostly 6082 T6 anodized aluminum alloy to construct the arm, it weighs just 12KG in water, 4.5KG lighter than the original arm launched in 2009. The upper arm has been designed with a sandwiched closed cell foam core structure, adding buoyancy, and all component voids are retained as atmosphere air spaces as opposed to the more traditional oil filled and compensated spaces. All these modifications have resulted in the weight of the arm being drastically reduced when in water, and increased its stability when operating on an ROV or AUV, a critical factor in the correct function of the vehicle.

CSIP Managing Director, Simon Gilligan said, "Modularity is a key design feature, allowing simple configuration changes and easy on-site repair ability. The arm has been made considerably lighter allowing increased stability and greater accuracy and precision in operation. There is currently no other arm like this on the market and demonstrates why CSIP is one of the leaders in the market."

Rated for depths down to 300 meters, the lightweight arm has a slew of 120° and a lift capacity of 12 KG. The arm can be mounted in the same footprint as a conventional hydraulic arm but does not require the use of a skid, valve pack or hydraulic pump. This saves weight and allows for far greater vehicle maneuverability.

Arm 5E has force and position feedback via closed-loop software and wrist camera options are available, a requirement for AUV operations.

Renewable Energy

KBR starts up major cracker in KSA

KBR announced the start-up of 1.35 million metric tons per year (KTA) steam cracker at Saudi Kayan Petrochemical Company's (Saudi Kayan) olefins plant located in Saudi Kayan's Petrochemical Complex at Al-Jubail, Kingdom of Saudi Arabia. KBR executed the engineering, procurement and construction management of the cracker.

"Building on KBR's legacy of innovation, the successful start-up of the Saudi Kayan steam cracker exemplifies KBR's broad scope of capabilities in large-scale project execution and industry-leading technology," said John Quinn, President, KBR Downstream. "KBR takes great pride in delivering quality services and technologies to its customers across the globe," he added.

The unit started up successfully with on-specification ethylene being produced at the end of July 2010. The cracker currently feeds predominately butane and ethane with total final products (ethylene, propylene and benzene) totaling 2.1 million KTA, making it one of the largest crackers in the world. The Saudi Kayan Petrochemical Complex will cater to high value sectors of the polyethylene, polypropylene and ethylene glycol markets and will introduce high value added products and derivatives such as polycarbonate and amines for the first time in Saudi Arabia, KBR said in a statement.

Iran and China to sign $1 billion deal

A Chinese consortium is to finalize a $1 billion financing deal with the Iranian National Petrochemical Company (NPC) to fund Iranian petrochemical projects.

The amount will be allocated to the top priorities in Iran's petrochemical sector, the Mehr News Agency reported.

Despite their active presence in Iran's oil and gas sector, Chinese companies have not yet invested in Iran's petrochemical projects.

Iranian Deputy Oil Minister Hossein Noqrehkar-Shirazi said last July that the volume of Chinese investment in upstream oil and gas projects is $29 billion.

Chinese companies are currently involved in building the Arak oil refinery.

The 20-year outlook plan envisions the petrochemical output to reach 100 million tons by 2015, which is the end of the fifth five-year development plan.

Kuwait invests $35 billion in oil projects

Kuwait plans to invest $35 billion on major oil projects as part of the government's four-year development plan, the country's oil minister, Sheikh Ahmed Abdullah Al Sabah.

The investments include a fourth refinery located in Al Zour, a project that was put on hold in March last year due to political wrangling in the country's parliament over the procedure for awarding contracts and rising costs for the potential 615,000 bpd facility.

"There's big money involved," Sheikh Ahmed, who is also the chairman of Kuwait Petroleum Corporation (KPC) said.

The new refinery is designed for high-sulphur oil, he said.

In light of the country's deteriorating environment and air quality, mostly caused by combustion of heavy oil in local power stations, the government is implementing an initiative called the Clean Fuel Project.

A lack of investment over the years has left the country's three oil refineries in need of a major overhaul.

The Clean Fuel Project is divided into three EPC packages: the first package covers a process unit at Mina Abdullah; the second covers process and revamp work at the Mina Abdullah and Shuaiba refineries, the third package covers revamping of the Mina Al Ahmadi refinery.

The project is expected to boost the combined capacity of the Mina Abdullah and Mina Al Ahmadi refineries from about 730,000 bpd to 800,000 bpd.

BP: Petronas to acquire Malaysian petrochemical assets

BP agreed to sell its interests in ethylene and polyethylene production in Malaysia to Petronas. The agreement concerns BP's 15% interest in ethylene Malaysia Sdn Bhd (EMSB) and 60% interest in Polyethylene Malaysia Sdn Bhd (PEMSB), both of which are operated by Petronas, and are located at Kertih, on the east coast of Malaysia, BP said in a statement.

Under the terms of the agreement, Petronas will, at closing, pay $363 million in cash to BP, inclusive of a balance sheet adjustment of $13 million and the repayment of a shareholder loan of $53 million. Subject to certain conditions, both parties anticipate completing the transaction by the end of 2010. Additionally, BP will also receive an EMSB pre-closing dividend payment amounting to $48 million, subject to EMSB board approval.

"This announcement does not affect BP's other businesses in Malaysia," the statement said.

"Whilst these are attractive businesses with strong domestic and regional markets, BP recognizes that Petronas is their natural owner, with various integration opportunities uniquely available to them at the Kertih site," said Sue Rataj, President of BP's Global Petrochemicals Business. He added that the company would focus on the development and expansion of olefins and derivatives business in China, and other large rapidly growing markets, and pursue opportunities in China and India. Those attempts aim to extend BP's leading world positions in aromatics and acetyls.

EMSB's olefins cracker, commissioned in 1995, has a production capacity of approximately 440,000 tonnes per annum (tpa) of ethylene, a basic petrochemical feedstock. The company is owned by Petronas (72.5%), BP (15%) and Idemitsu (12.5%). PEMSB, whose polyethylene plant also began operation in 1995, is owned by BP (60%) and Petronas (40%). The plant has a production capacity of some 318,000 tpa of polyethylene, used primarily for packaging and film manufacture. Ethylene feedstock for the plant is supplied by EMSB.

Another rig burned and sunk

You may have heard the news about the Deepwater Horizon drilling rig, which caught fire, burned for two days, and then sank in 5,000 ft of water in the Gulf of Mexico. There are still 11 men missing, and they are not expected to be found

By Osama Ismail, GUPCO Drilling Manager

The rig, belongs to Transocean, the world's biggest offshore drilling contractor, was originally contracted through the year 2013 to BP and was working on BP's Macondo exploration well, when the fire broke out. The rig costs about $500,000 per day to contract. The full drilling spread, with helicopters and support vessels and other services will cost closer to $1,000,000 per day to operate in the course of drilling for oil and gas. The rig cost about $350,000,000 to build in 2001 and would cost at least double that to replace today.

The rig represents the cutting edge of drilling technology. It is a floating rig, capable of working in up to 10,000 ft water depth. The rig is not moored; it does not use anchors because it would be too costly and too heavy to suspend this mooring load from the floating structure. Rather, a triply-redundant computer system uses satellite positioning to control powerful thrusters that keep the rig on station within a few feet of its intended location, at all times. This is called Dynamic Positioning.

The rig had apparently just finished cementing steel casing in place at depths exceeding

A sister rig, the Nautilus, being transported on a Heavy-Lift vessel

18,000 ft. The next operation was to suspend the well so that the rig could move to its next drilling location, the idea being that a rig would return to this well later in order to complete the work necessary to bring the well into production.

It is thought that somehow formation fluids – oil /gas – got into the wellbore and were undetected until it was too late to take action. With a floating drilling rig setup, because it moves with the waves, currents, and winds, all of the main pressure control equipment sits on the seabed – the uppermost unmoving point in the well. This pressure control equipment – the Blowout Preventers, or 'BOP's" as they are called, are controlled with redundant systems from the rig. In the event of a serious emergency, there are multiple Panic Buttons to hit, and even fail-safe Deadman systems that should be automatically engaged when something of this proportion breaks out. None of them were apparently activated, suggesting that the blowout was especially swift to escalate at the surface. The flames were visible up to about 35 miles away. Not the glow, the flames were 200 – 300 ft high.

From top: support vessels using their fire fighting gear to cool the rig. About noon Day 1 – List is pronounced now

All of this will be investigated and it will be some months before all of the particulars are known. For now, it is enough to say that this marvel of modern technology, which had been operating with an excellent safety record, has burned up and sunk taking souls with it.

The well still is apparently flowing oil, which is appearing at the surface as a slick. They have been working with remotely operated vehicles, or ROV's which are essentially tethered miniature submarines with manipulator arms and other equipment that can perform work underwater while the operator sits on a vessel. These are what were used to explore the Titanic, among other things. Every floating rig has one on board and they are in constant use. In this case, they are deploying ROV's from dedicated service vessels. They have been trying to close the well in using a specialized port on the BOP's and a pumping arrangement on their ROV's. They have been unsuccessful so far. Specialized pollution control vessels have been scrambled to start working the spill, skimming the oil up.

In the coming weeks, they will move in at least one other rig to drill a fresh well that will intersect the blowing one at its pay zone. They will use technology that is capable of drilling from a floating rig, over 3 miles deep to an exact specific point in the earth – with a target radius of just a few feet plus or minus. Once they intersect their target, a heavy fluid will be pumped that exceeds the formation's pressure, thus causing the flow to cease and rendering the well safe at last. It will take at least a couple of months to get this done, bringing all available technology to bear. It will be an ecological disaster if the well flows all of the while; Optimistically, it could bridge off downhole.

It is a sad day when something like this happens to any rig, but even more so when it happens to something on the cutting edge of our capabilities. The photos that follow show the progression of events over the 36 hours from catching fire to sinking.

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Coming Decade's obstacles hindring progress of the Petroleum sector

Discussion surrounding Egypt's supply and production of petroleum and natural gases has been heating up steadily over the past several years. As a vital yet decidedly limited market in the region, the petroleum sector faces some serious challenges, prompting a series of conferences, reforms and debates to be held by ministers, heads of state, and industry leaders

By Clarissa Pharr

For an issue of such importance, several angles are required to tackle potential obstacles; the economic view states that Egypt is wasting labor and production costs on foreign import, while ignoring the limited nature of a stagnant petroleum supply. Domestic policy makers argue that changes must be made to benefit in-country profits and protect against losing profits to the foreign markets, while those involved in foreign policy argue that to withhold petroleum exports from loyal international buyers would jeopardize Egypt's regional relations and cause detrimental policy relations decades from now. No matter what the standpoint, the arguments and issues are many-fold, ranging from scientific, geologic limits to Egypt's petroleum and gas reserves to the politics of taxes, tariffs, and foreign relations.

The year 2010 alone has had its fair share of ups and downs for Egypt's petroleum industry. As much of the world market continues to grapple with the repercussions of the global financial crisis, the leading global markets have decreased demand significantly, causing Egypt's production rates to slow. While Egypt's Ministry of Petroleum maintains that there is little concern for one of its highest-grossing markets in the coming quarter, many have expressed a reasonable amount of concern.

In spring of 2010, talk began to surface in the petroleum market of a growing domestic diesel shortage in the market. While the claims were quickly shot down and dismissed as rumors by Minister of Petroleum Sameh Fahmi, the news had very real effects amongst buyer behaviors, which may have run the risk of driving up local diesel prices. For such an indispensable local product, the ripple effect of rumored shortage to panic buying to faster sales rate could bear some serious consequences on the diesel-dependent market. Situations such as these demonstrate how very volatile perceptions of the petroleum market are, even with products as readily available as diesel and other gases. The situation also raises the issue of how very intertwined local communication, buyer awareness, and market changes are with one another, and how vital it is to ensure buyers are confident in the everyday market stability. While rumors such as those circulating this past March about diesel shortage are difficult to track down, it clearly demonstrates one of the many challenges that regularly effect investors, buyers and suppliers in the petroleum sector.

Another obstacle faced in the petroleum market is the perpetual sale of petroleum products on the black or gray markets, which creates some unpredictable price rates and supply levels, while syphoning off supplies at unregulated rates. While the sales have a generally minimal impact on the market as a whole, these actions present considerable potential risk. Exporting petroleum to Gaza has been one of the more significant sources of this particular obstacle.

Besides the internal issues that affect Egypt's petroleum and gas sector, international trade has its fair share of price fluctuations, which have erratically either spiked or stagnated sales. With the unpredictable international prices of oil trading of the recent years, Egypt's international petroleum commerce continues to face issues with international trade partners. Since 2007, ministry heads have overseen a series of export freezes, tax implementations and tariffs, often to the perplexity of foreign buyers.

Causes for such shifts in export policies have varied. As recently as late August 2010, the Ministry of Petroleum ordered a hold on all foreign petroleum exports to conserve Egypt's supply for domestic demand, which had risen sharply due to heightened demand and pressure on the power grid resources. In a bid to avoid trade conflict between the Ministry of Petroleum and Ministry of Electricity, petroleum exports were at one point reduced to a reported rate of 70 percent.

Egyptian Natural Gas Holding Company (EGAS) head Mahmoud Lateef supported the export reductions in spite of the threat of strained international trade relations, maintaining that Egypt must prioritize domestic needs before foreign trade profit. Still, the taxing, tariff and reduced export tactics may cause trade conflicts, with some serious consequences in foreign trade relations.

With 28.9 million tons of petroleum consumed in Egypt in the fiscal year 2008-2009, concerns for Egypt's reputedly waning supplies remain serious. While there have been talks to devise a conservation plan and develop action points to help conserve national supplies, the most significant point of action has been to remove all subsidies placed on petroleum products. The ban is to be implemented for the coming 5 years.

Yet another international trade issue effecting Egypt's petroleum and gas predicament are prominent international consumers, such as Israel's Israel Electric Corporation (IEC), whose demand for Egyptian gas remains constant and aggressive. In an agreement reach in 2005 between the two governments, Egypt was to export an annual 1.7 square meters of natural gas to Israel for 20 years. Due to the impending gas market changes as well as changing values in the global petroleum market, this agreement has been amended to better cater to Egypt's needs and capabilities. The General Petroleum Authority has adjusted the terms for a revised trade agreement, in which IEC is to receive an annual 2.1 Btu from Egypt for the coming 20 years; however, spokespeople maintain that room for necessary stipulations that occur within those 20 year may be granted if necessary to reflect appropriate market value.

Other concerns for the petroleum and gas industry deal strictly with issues of supply. With concerns that Egypt is in danger of depleting its domestic gas reserves by the year 2020, Ministry representatives are hard pressed to develop a solution. Some potential solutions, such as that proposed by former ministry undersecretary Hussein Abdallah, who believes Egypt's key to survival in the industry is to reign in production to cover domestic needs only from this moment onward, remain tenuous at best. If Egypt sustains its current rate of consumption and export, reserves will be depleted by 2020, and Egypt will have no choice but to purchase petroleum and gas supplies at world market value.

In Egypt's steadily growing economy, this could potentially set the economy back USD 90 billion annual spending on petroleum energy. Abdallah's proposal therefore puts Egypt first before profit from international trade, but may be the best way to preserve precious natural domestic resources.

As demonstrated above, the majority of issues faced in Egypt's petroleum and gas industry today stem from basic supply concerns, coupled with labor and production costs, and the vital role petroleum and gas reserves play in maintaining the country's international trade relations. The obstacles stem from the hard facts of supply and demand, but much reform and innovations to trade regulations and terms of use must be applied to the industry to avoid the effects of a severe petroleum drought. By adjusting terms of trade and shifting focus from international income and exporting, to domestic needs and conserving supplies, Egypt can expect to see some significant changes in trade and production attitudes over the coming decade.

Continual improvement for being a one-stop shop

"I believe that it is very much our solid experience and our wide global technical service offerings that has made these projects a great success," said Eng. Hisham El-Grawany, Country Manager and Managing Director of GL Noble Denton Egypt, commenting on the Burullus and Rashpetco Rosetta deepwater gas development projects

By Ahmed Morsy
Sama Ezz Eldin

GL Noble Denton company history stretches back to the 19th century and we have been in the global market for almost 142 years. We have been well established in the Middle East region for more than 25 years, and in Egypt Oil & Gas sector firstly with the General Petroleum Company (GPC). The real breakthrough for our oil and gas business in Egypt came about in 2003, when we were awarded the first deepwater gas development project with British Gas joint venture Burullus Gas Company, covering the scope of independent verification and quality surveillance services.

As one of Egypt's biggest deepwater projects – this was a real watershed moment both for the country and our entrenchment as a major Egyptian oil and gas technical assurance services provider. Following last year's merger with Noble Denton, our company is now a major global independent technical advisor to the oil & gas industry with experts around the world – trading under the name GL Noble Denton.

Was it easy for GL Noble Denton to break through the Egyptian Oil and Gas sector?

Because of our solid portfolio of services – we cover the full lifecycle – and a global multidiscioplinary team of people we have a lot of advantages. It makes good business sense when considering that most of the international oil and gas projects derive from globally experienced corporations. Our clients can benefit from the fact that we are part of a global network, 220 offices in more than 82 countries with 7000 employees. So, we draw our pool of experts from our global pracitve teams and deliver our services across the lifecycle. This means that we can also ensure our clients safety, reliability and operational efficiency from the very beginning of all projects.

> *We have always developed our software in line with the needs of the market and our clients*

Regarding the merge which occurred in 2009 between GL Industrial services and Noble Denton, Was it the reason for GL Noble Denton to become a world class technical assurance and consulting company? How?

With more than 100 years of history, Noble Denton was without doubt one of the most prominent names in marine oil and gas, technical assurance and engineering consultancy. Our new name very much reflects the strength of both companies. We greatly extended our capabilities. with marine operations, marine warranty surveys, rig moves and project management consultancy. Indeed, Noble Denton is the most reputable worldwide company in the marine consultancy and marine advising domain with great experience in offshore operations.

What are the categories of services of GL Noble Denton provides and their division?

GL Noble Denton offers expert advice and practical assistance from an independent position; anything our clients need at every stage of the asset lifecycle from design to decommissioning. We do this regardless of scale and complexity and always make sure that operations are safe and profitable.

How does GL Noble Denton intend to be a world class technical assurance and consulting company?

As a world class technical assurance and consulting company, we are constantly looking to fill the gaps and strengthen our capabilities. Our strength is that we bring a truly independent view whenever we do business, and continue to build on our success and experience with some of the most challenging projects in the industry. Our dedication to safety and reducing risk is second to none, and this combined with the highest quality and efficiency means that we are a strong partner to any player in the market.

How were you awarded with independent verification, certification and quality surveillance tasks for both the Burullus deepwater gas development and Rashpetco Rosetta deepwater gas development projects?

Although many of our competitors were represented in the tenders, we were after all chosen for these major projects and are the IVA for BURULLUS since phase two till phase eight. I believe our strong technical, and highly competitive, proposal allowed us to win these projects. However, we also have the experience and know how of deep water technologies given our involvement from phase two. GL Noble Denton's local presence and capacitymeans that we can provide great service to the client and perform tasks in a quick and efficient manner and this also reduce the cost. When this is said, I still believe that it is very much our solid experience and our wide global technical service offerings that has made these projects a great success.

How did GL Noble Denton make a compromise between the quality and the price?

I believe that there is no compromise in quality so our price is not considered the lowest. Nevertheless, our local capacity, which is the highest in number and quality compared to other competitors, enables us from a strategic point of view to lower the costs. So, we level the equation by combining the expats with the local, however, giving the local the higher share. This process requires huge investments to make sure that all our staff has the same level of qualifications, technical knowledge and training.

What are GL Noble Denton's remarkable achievements in the Egyptian market so far?

The Gupco project began in 2005; we are supporting GUPCO in creating an asset register and integrity management system with our world-class software, GALIOM. Eventually,

Galiom will be implemented on all Gupco's offshore complexes and at the moment we are preparing for phase two for this strategic and highly successful project. As well as working for Gupco, we have provided Petrobel with marine warranty surveys for its platforms and quality control since 2004.

We offer a range of services to cover the entire oil and gas industry. Starting with design verification, we supervise equipment and material manufacture, installation and independently assurance quality. Then we issue verification compliance reports and certifications to the client that proves safety and integrity of the asset. After the asset is installed, we offer inspection services on completed projects and check the quality for clients at vendor's premises. For the whole lifecycle of the asset we provide a suite of engineering consultancy including risk and safety, asset management and software solutions consultancy services.

For example, we conduct safety and risk studies in Egypt for a variety of clients such as Rashpetco , Enppi, Gupco, Petrosafe and United Gas Derivatives Company.

Besides, our Independent verifications projects with BURULLUS and RASHPETCO since 2003. In addition to many projects including all our activities for certifications, inspection, risk and Safety, marine operation and consultancy services.

GL Noble Denton in Egypt has more than 60 experienced engineers and mariners on the client's doorstep – 24 hours a day

What did GL Noble Denton do – to become the pioneers in the domain of software solutions offering services and support to all areas in the oil and gas industry?

When GL bought Advantica, one of the leading companies in highly specialised software for the oil and gas industry, it added a great and very important part to its business portfolio. Today Advantica is part of GL Noble Denton and it means that we offer a comprehensive portfolio of software solutions across the oil and gas sector. We have always developed our software in line with the needs of the market and our clients, and our software solutions are always backed up by comprehensive implementation and support services.

What about the activity of marine operation /consultancy in Egypt?

GL Noble Denton specialises in the provision of world-class personnel and expertise in support of offshore marine operations. These activities include the rig moving consultancy, marine warranty projects, and dynamic positioning (DP) consultancy including our world-leading FMEA, operation manuals, DP surveys and DP assurance.

Does GL Noble Denton agree on being a sub-contractor?

It depends on the kind of work. We agree on being a sub-contractor only if our task is specified. For example, we agreed to be a sub-contractor for Enppi since it won't perform the asset integrity management in a rehabilitation project. In addition, it should be applied to the tender's conditions of the company.

How do you find the competition in the local market and what are your plans to achieve your goals?

The competition in general is a healthy process to the benefit of the industry and our clients.

By monitoring your client expectations regularly and conside ing your clients as partners for success you will not suffer from fair competition.

GL Noble Denton in Egypt has more than 60 experienced engineers and mariners on the client's doorstep – 24 hours a day – this means that we can respond promptly and see a client within just 10 minutes.

What are the challenges facing GL Noble Denton in Egypt to lift or develop its rank within the market in Egypt?

We are considered unique in the Egyptian market aiming to being a one-stop shop. Locally, we are working under the strategy of continual improvement in line with the strategies of the international companies. The definition of corrective actions and also the preventive actions play a great role when evaluating the client support process, and this can always be improved we always have to aim for the best quality.

How do you rank the GL Noble Denton bet ween the other competitors?

For over 140 years we have been independently innovating to make maritime, offshore and onshore energy operations safer, more reliable and more efficient. We are proud of our unrivalled experience and work hard to deliver to our clients and live up to our strong reputation in Egypt – and globally.

What are the companies which GL Nobel Denton worked or still works with in the local market?

Most of the oil and gas companies, contractors, consultants are our partners in the Egyptian market.

So long our beloved gas!

"We have to stop exporting Gas instantly," replied an official petroleum source angrily when asked the late power cuts due to the shortage of gas supplies to the power stations, condemning the Israeli deal for this shortage!

By Sama Ezz Eldin

Eng. Ibrahim Zahran, former chairman of Khalda Petroleum Company and member of the National Specialized Councils, agreed on the concept that exporting gas is strategically wrong.

"We are exporting 18 percent of the 27 percent that I have. They say the reserves may reach 78 percent, but these are not affirmed reserves yet," said Zahran.

Zahran went on to show more agony, "Why would Egypt export natural gas? Saudi Arabia, which produces two fold Egypt, never exports natural gas. They liquefy it first then sell it abroad".

Egypt's role in the region forced it to take a leading decision of initiating a gas pipeline that runs through some of the Arabian countries; the Arab Gas Pipeline is a pipeline that exports Egyptian natural gas to the Middle East and possibly to Europe, with a further extension plan. When completed, its total length would reach up to 1,200 kilometers at a cost of $1.2 billion. The governmental source commented, "The idea of establishing this pipeline, came from exporting gas to the foreign partner, would require instigating this elongated pipeline through other Arabian countries. First, those countries said they would impose some specific fees to approve the passage of this pipeline through its land. Then they came with another demand, which is to take a share of the gas going through those lines."

Similarly, Eng. Zahran added, "This pipeline was also made to have another parallel line that imports gas into Egypt, but it was not established because the nearest country would be Iraq, and we all know the current situation in there."

Similar to that is the Nabucco pipeline (also referred as Turkey–Austria gas pipeline), which is a proposed natural gas pipeline from Erzurum in Turkey to Baumgarten ander March in Austria diversifying natural gas suppliers and delivery routes for Europe. The pipeline attempts to lessen European dependence on Russian energy. The project is backed by several European Union states and the United States and is seen as rival to the Gazprom-led South Stream pipeline project. At the same time, there are some doubts concerning viability of supplies. The main supplier is expected to be Azerbaijan in cooperation with Turkmenistan, Iraq and Egypt.

Preparations for the Nabucco project started in 2002. The intergovernmental agreement between Turkey, Romania, Bulgaria, Hungary and Austria was signed on 13 July 2009. The project is developed by the consortium of six companies. The final investment decision will be made at the end of 2010. If built, the pipeline is expected to be operational by 2015 and it will carry 31 billion cubic meters of natural gas per year.

"The Nabucco pipeline is considered a political demonstration, because none of those countries has that immense capacity to export from it. They would have to make it up with Iran so it would start working," said Zahran.

The shortage of gas that caused the widely power cuts through the whole country do not only stand on those two pipelines. The experts considered the gas exports to Israel as the main reason behind it. "The contracts signed with Israel are with very low prices they would make you question the real reasons behind signing those deals," added the governmental source.

The Arish–Ashkelon pipeline is a 100 kilometers submarine gas pipeline connecting the Arab Gas Pipeline with Israel. Although it is not officially a part of the Arab Gas Pipeline project, it branches off from the same pipeline in Egypt. The pipeline is built and operated by the East Mediterranean Gas Company (EMG), a joint company of Egyptian General Petroleum Corporation (EGPC - 68.4%), the Israeli company Merhav (25%) as well as Ampal-American Israel Corp. (6.6%). The pipeline became operational in February 2008. Initially, Egypt and Israel had agreed to supply through this pipeline 1.7 bcm of natural gas per year for use by the Israel Electric Corporation. Since then, the amount of exported gas has been raised to 2.1 bcm per year to be delivered through the year 2028. In addition, by late 2009, EMG signed contracts to supply through the pipeline additional 2 bcm per year to private electricity generators and various industrial concerns in Israel. The total capacity of the pipeline is 9 bcm/year. In 2010, the pipeline is supplying approximately half of the natural gas consumed in Israel, with the other half being supplied from domestic resources.

We are exporting 18 percent of the 27 percent that we have. They say the reserves may reach 78 percent, but these are not affirmed reserves yet

"To the contrary, Egypt loses a lot of money on its gas sales to Israel. Initially, the 2005 gas treaty between Egypt and Israel required Egypt to supply Israel with 200 million feet of gas daily for a 15 year period at a price that "ranges between 70 cents and $1.5 per BTU (British thermal unit)," to be fixed throughout the treaty's lifetime. So we are selling this gas at a tiny fraction of its market price, which ranges between $8-$12 per BTU. To be exact, the government refuses to declare its selling prices to date," wrote Mohamed Waked, an anthropologist and PhD candidate at the University of Amsterdam, in his article of "The Politics of Power Cuts in Egypt" published in the American political newsletter on the CounterPunch.

Waked also talked about how the ministry decreased the amount of gas exported to other countries as a momentary solution, "By reducing the quantities marked for the private sector and export to Jordan. Although Jordan pays much more for the gas, Israel remained untouchable."

On the other hand, the government answered back on the Israeli low priced contracts as they elevated the prices lately. The governmental source fired back that "The only high prices in any Israeli deal are in the additional contracts, which are made from just a short time period and those are with the extra needed quantities of gas they want to add. This amount of gas is considered far less than the ones agreed on in the original contracts."

Noteworthy, those power cuts caused by the shortage of gas forced the power stations to use Diesel, which caused a great damage to these stations. "It was shocking to hear that due to the shortage of gas needed to be exported, they withdrawn the gas from power stations and gave them Diesel instead. I blame both sides, especially the Electricity engineers, they knew the atrocious damage of using that as a fuel but still they used it," Zahran added.

Waked also tackled in his article the same issue, "The ministry of petroleum gradually held back their gas until it dropped to 76%. This forced them to operate with the suboptimal diesel much more than they should, which reduced their generation efficiency below national demand. Using diesel also clogs their gas-based fuel injection system frequently, resulting in many breakdowns. It's quite certain too that using diesel instead of gas has reduced the lifetime of their generation equipment; they probably destroyed a good part of their assets' life and worth. While no one talks about this last point, the damage to the power generation machinery is probably to be measured in billions of dollars."

Mohamed Awad, Head of the state-run Egyptian Electricity Holding Company (EEHC), clarified on the same issue in Al-Masry Al-Youm Newspaper, "Fuel oil has an effect on power stations. Twenty-two percent of the energy we produce comes from oil fuel-run units. We counter the problem by making chemical additions that diminish the negative impact of the fuel."

Zahran continued on the issue of stopping gas exports that Algeria did it and stopped exporting gas to Spain till they agree on a higher price. "We will not even face any international sanctions, as we can resort to international arbitration and they would find how low our prices compared to the current market price. Russia stopped its gas to Europe back in 2008 till they change the sum of price paid."

"We can also sign deal with foreign countries to build liquefy stations for us here if they want our gas, cause we should never export our natural gas without liquefying. Even the liquefied stations in Edko and Damietta, the foreign investor was more smart than us, as they built it then charged us for it!"

"They might talk about the lack of infrastructure to preserve our extracted gas, but it is totally a non scientific scheme. Because simply the gas is already reserved underground in the wells, so do not extract it unless you need it. Gauge the local need and extract it. Our natural gas is our future prosperity, we made it suffer for long and we should start treating it with respect," Zahran persisted.

Why does Russia support Iran sanctions?

Gazprom, the largest natural gas company in the world and the mainstay of the Russian economy, is in deep crisis. By Gazprom's own estimates, it will not be able to reach the pre-crisis level until 2013. Based on a conditional assessment, for Gazprom to climb back to its former position, it needs to make sure that there is no alternate route for gas supplies to Europe. This, in essence, is the reason why Russia supported the United Nations Security Council sanctions on Iran

By Mostafa Mabrouk, Vice Chairman Assistant for Economic Affairs, Ganope

In May 2008, Gazprom's market capitalization exceeded $350 billion. Its current market capitalization is $140 billion, a dwarfish 40% of its former self. The oil sector of Russia is showing signs of coming out of the last year's financial and economic crisis, but the gas sector is still sluggish. By the end of 2009, the oil production and export of Russia increased marginally, however, the gas exports fell by 11% and Gazprom production decreased by 16% because of the lack of gas demand.

Although Gazprom claims to have practical plans to regain its former position by 2013, the abundant availability of cheaper shale gas in the US, the advancement in LNG liquefaction and transportation technologies and the prospects of accessibility of vast volumes of shale gas in Europe are all stacked against Gazprom ambitions. The markets where Gazprom has near monopoly – the European markets – are not showing any signs of substantially increasing their imports from Russia. On the other hand, the markets that are ready to consume more gas – China and Iran – are not connected with Russia by any pipeline system. Even in the captive Russian market, Gazprom is being challenged by rising stars such as Rosneft and Novatek. Gazprom traditionally had 85% share of the domestic market, but by the end of 2009, it had shrunk to 75%.

As faced with sharply declining export market, Gazprom did the thing only a Russian giant could do: It shot itself in the foot. Gazprom stopped taking Turkmen gas in April 2009 without giving an adequate notice for shutting down of gas intake. As a result, the accumulated pressure in the pipeline system led to a string of accidents in Turkmenistan, causing severe damage to an expensive compressor station, a segment of the main trunk, and 20 gas wells. This suicidal act of Gazprom prompted Turkmenistan to quickly build the second pipeline (Daulatabat-Khangiran) to Iran, increasing the export capacity to 25 billion cubic meters (BCM). Currently the combined export from both pipes (Korpeje-Kurtkui and Daulatabat-Khangiran) is around 9 BCM. It will reach 14 BCM in the coming winter, and to 20 BCM in foreseeable future.

At the time of the accident caused by Gazprom, Turkmenistan was already building a pipeline to China, which came into operation in December 2009. The present flow of gas from this pipe is 5 BCM that will be raised to 13 BCM by the end of 2011 and then there would be sharp increase over the next two years. The existing arrangements between Turkmenistan and China envisage eventual annual export of 40 BCM but the negotiations are underway to go even beyond that. The ultimate exports of Turkmen gas in the Chinese direction could be substantially more than 40 BCM.

Increasing production

Gazprom plans to produce 519,3 BCM this year. The target for 2011 is 528,6 BCM, and for 2012 – 542,4 BCM. The idea is to reach the pre-crisis levels by 2013. However, Gazprom has lowered its gas export forecast for 2010 from 160,8 to 145 BCM, a decrease of nearly 10%. The exports this year would be just 4,35 BCM more than the 140,65 that Gazprom exported last year. While there are efforts to increase production, there is nothing Gazprom can do to increase the export prices, or even hold them at the previous level. The average forecast contract price has been lowered from $326 to $308 per thousand cubic meters.

Nord and South Stream

The Nord Stream gas pipeline is a fundamentally new route for Russian gas exports to Europe. The target markets for gas supply via Nord Stream are Germany, UK, Netherlands, France, Denmark and other countries. The new gas pipeline is very important in terms of meeting the increasing natural gas demand in the European market. Gas imports to the EU countries are anticipated to grow in the nearest decade by nearly 200 BCM or more than 50% . Due to a direct connection between the world's largest gas reserves located in Russia and the European gas transmission system, Nord Stream will be able to satisfy circa 25% of this extra demand for imported gas. In this regard, back in December 2000, the European Commission had assigned the Nord Stream project the Trans-European Network (TEN) status, which was confirmed once again in 2006. This means that Nord Stream represents a key project aimed at creating crucial cross-border transport capacities with a view to ensuring sustainability and energy security in Europe.

The Nord Stream project is implemented by Nord Stream AG, a joint venture set up for the planning, construction and follow-up operation of the offshore pipeline. On October 8, 2005, Gazprom and German companies, BASF AG and E. ON AG, entered in Berlin into an in-principle Agreement to construct the Nord Stream gas pipeline. Under the Agreement, the partners set up a joint venture Nord Stream AG, which is 51% owned by Gazprom and 24,5% owned by Wintershall Holding (BASF AG subsidiary) and E. ON Ruhrgas (Ruhrgas AG before July 1, 2004, starting from February 2003 is part of E.ON) each. On June 10, 2008, N. V. Nederlandse Gasunie was added into the Nord Stream AG shareholders register as a new shareholder. Pursuant to the Umbrella Agreement entered into by Gazprom and Gasunie, the Dutch company obtained a 9% stake in Nord Stream AG owing to a reduction in E.ON Ruhrgas and Wintershall Holding stakes by 4,5% each. As a result, Nord Stream AG shareholdings split in the following way: Gazprom – 51%, Wintershall Holding and E. ON Ruhrgas – 20% each, N. V. Nederlandse Gasunie – 9%.

Secondly, the South Stream project is aimed at strengthening the European energy security. It is another real step toward executing the Gazprom strategy to diversify the Russian natural gas supply routes. The new gas pipeline system meeting the latest environmental and technological requirements will significantly raise the energy supply security of the entire European continent.

The project provides for South Stream's offshore section to run under the Black Sea from the Russian coast (Beregovaya compressor station) to the Bulgarian coast. The total length of the offshore section will be around 900 km, maximum depth – over two km and full capacity – 63 bcm. Two possible routes are under review for South Stream's onshore section from Bulgaria- one, northwestwards and the other, southwestwards. Blue Stream project success – an example of efficient cooperation between Gazprom and ENI.

Iran Pipe to Europe

While Russia is putting together an elaborate and meticulous plan to remain overseer of the gas market in Europe, Iran has started building its own pipeline in the European direction.

The Iranian pipeline will have capacity of 40 BCM, and expected cost is around $1,5 billion. It is expected to be completed by 2013. It will start from South Pars field and terminate at Bazargon border point with Turkey, a distance of about 1850 km. The oil ministry of Iran will provide some 63% of funding for the project and the rest will come from other sources.

Gazprom's Fears

Iran is already exporting some gas to Europe and that capacity would increase within the next three years. Moreover, Iran has two pipelines connecting to the gas network of Turkmenistan, and by default, Central Asia. This fact is especially significant if we consider that Iran produces enough gas to meet its domestic demands and any volumes it imports from Turkmenistan are exported to Turkey.

Because of flexible methods of negotiation, Iran can offer betters terms to European buyers of gas. In fact, the existing supply situation and the pipeline infrastructure are such that even today Iran can either supply or transit at least 15 BCM of gas to Europe.

The lucrative and politically pragmatic markets of central and Eastern Europe are in easy reach of Iran, and some buyers are already in talks with Iran. If Iran starts exporting its own gas and transiting Central Asian gas to Europe, the entire gas reserve of Russia would be at risk of becoming "stranded gas". This possibility is not acceptable to Gazprom.

Gazprom's fear of receding into irrelevance and Putin's economic patriotism are the factors that compelled Russia to vote for the fresh sanctions against Iran.

Efficient compression solution for CO2 Capturing and Sequestration, Enhanced Oil Recovery and Enhanced Gas Recovery

Anthropogenic CO2 emissions are among the most unwanted side effects of civilization. However, industrial solutions are at hand for capturing and sequestration of CO2. Drawing on hundreds of front-end engineering and design studies, Siemens analyzed three general scenarios to identify appropriate re-compression solutions

By Siemens Venture Magazine

Man-made CO2 has raised the level of atmospheric CO2 significantly beyond historic levels. The scientific community notes a direct correlation between atmospheric concentrations of CO2 and other greenhouse gases, and increasing average global temperatures. The challenge now is to ensure reliable, sustainable and economic power supply to match the world's growing energy demand whilst keeping greenhouse gases within the "acceptable level", knowing that for decades to come fossil fuels will continue to play an important role. High-efficiency, fossil-fueled power plants fitted with CO2 capture and storage (CCS) technology offer a short to mid-term solution to achieve low-CO2 electricity supply. There are three different CCS technologies: Pre-Combustion Capture; Post-Combustion Capture; and Oxyfuel technology.

Selecting scenario

All of the above three processes need dedicated compression solutions. Over the past two years, Siemens has supported hundreds of projects in different stages, from feasibility concepts to FEED-phase support and firm bids. These projects were primarily for CCS, but also included enhanced oil and gas recovery (EOR, EGR). They provided a priceless basis to design three scenarios that would allow determining optimum compression solutions for any given set of performance requirements. Scenario A is characterized by the lowest compression power for CO2, as can be seen by the high gradient of the depicted compression arrow. However, unless installation is in Artic or Antarctic latitudes providing economically reasonable recooling, (as in the Siemens Hammerfest reference), a dedicated refrigeration cycle will be needed, using up all the power benefits while increasing system complexity.

Scenario B uses ambient site conditions for supercritical recooling. The required compression power is higher than for scenario A, but still lower than for scenario C. From the overall power perspective, this compression path seems to be the most promising. However, the challenge is to properly address the CO2 behavior, which still shows considerable compressible behavior at high temperature sensitivity.

Scenario C investigates a compression path in the gas phase with consecutive compression in the light-density supercritical area. Along the complete path, the fluid behavior can be modeled via conventional gas dynamics. According to Siemens concept studies power consumption will be about 7 percent higher than with scenario B. Yet, for the first phase scenario C was the chosen focus due to the overall concept evaluation, which takes into consideration such important factors as power balance, performance predictability, performance safety, reliability, up-to-date reference situation and timeline.

Selecting the compressor technology

With the compression path of scenario C chosen, it was time to determine the most suitable compressor technology. The choice was between a single-shaft compressor or an integrally geared compressor. For the investigation and comparison, Siemens mirrored all significant parameters for flow, pressure, gas composition, feed flows and gas treatment, control flexibility/speed, driver type and so forth. The compression duty was identical for the two solutions: 300 tons per hour of wet CO2 with a specified pressure ratio of 1.9 bar to 160 bar.

Solution A was a two-casing single-shaft compressor train, totaling four process stages, and driven by a variable-speed drive system directly coupled to the LP casing. The LP and HP casings were selected in back-to-back arrangement providing three intercooling steps — the classic set-up concept for petrochemical installations in fertilizer units with a focus on robustness and highest availability. Solution B was a seven-stage integrally geared compressor, type STC-GV (80-7), driven by a fixed-speed drive on the central bull gear. Thanks to the speed flexibility of each impeller pair, an optimum flow coefficient for highest efficiency can be achieved for the individual impeller. This concept has its origin in the air separation market with the focus on highest efficiency solutions and high availability. The integrally geared compressor wins the day.

Computing the performance of the two compression solutions in the three scenarios determined a clear winner. On three valid counts, the integrally geared compressor showed its superiority for CO2 recompression — less OPEX, less CAPEX, and more flexibility.

Less OPEX

Both concepts are suitable for wet-CO2 compression even under sour-gas conditions as specified by the National Association of Corrosion Engineers (NACE). However, power consumption being the key differentiator between the two concepts, there is a striking life cycle cost advantage for the integrally geared compressor. A benefit of 4,890 kilowatt (kW) or 13.9 percent of installed coupling power can be achieved for the main operating point "Rated", and of 3,937 kW or 13.4 percent at "Normal" part-load. This part-load advantage is further supported by a larger performance-map turndown ratio using inlet guide vane control in comparison to the speed control of the single-shaft solution. This benefit is due to higher impeller efficiency with axial flow intake in combination with high head-coefficients and the flexibility to adjust the speed for optimum flow coefficients.

Less CAPEX

In addition to the OPEX benefits, the investment cost for an integrally geared compressor is lower than for a single-shaft compressor train, due to the compact design with fewer impellers and smaller impeller diameters. This also means that the installation weight is considerably lower and less space is required, cutting expenses for ground, concrete work and civil engineering. An additional advantage is that complete packaged units can be realized with coolers installed in steel frames and completely assembled piping including anti-surge loops. This enables single-lift units, requiring less site-installation time, and reducing piping interfaces to a minimum.

Better Flexibility

As far as machine robustness is concerned, permissible nozzle loads, forces and torques of integrally geared compressors require a closer look and will be calculated on a case-bycase basis. If necessary, compensators can be installed on the interfaces to the suction and discharge piping to equalize excessive loading. Another major advantage of the integrally geared compressor is its flexibility for intermediate control of pressure/temperature or flow, enabling distinct conditions to be controlled throughout the compression chain within one single compressor. This is particularly useful when controlling pressures for feed or extraction flow, or pressures on process-gas treatments like dehydration. The speed-controlled single-shaft compressor has only one degree of freedom. As for availability, both compressor concepts are in the 99-percent range, and both are applied in critical compression services, underlining the credibility of the technology. Considering CAPEX and OPEX, and following the intense research and development in accordance with current and upcoming CO2 project requirements, integrally geared turbo compressors incorporate the optimum design concept for economic CO2 compression. Siemens has the solution and the experience, having to date already installed more than 1,000 integrally geared air turbo compressors.

Drexel / Hydrasun: New Technology for the Egyptian Market

Hydrasun is a leading provider of fluid connectors, hoses, fittings and process control instrumentation products and related services to a range of industries including oil and gas, petrochemical, utilities, marine, defence and renewable energy. The principle services provided include the design, engineering, manufacture, assembly and testing of fluid transfer assemblies, multi-line hydraulic and electro-hydraulic control umbilical's, along with a range of associated inspection and integrity management services.

Established in 1976, with over 30 years of experience, Hydrasun has built a strong reputation and market position founded upon excellence in customer service combined with the breadth and depth of our product and service offering.

Headquartered in Aberdeen with operations and representation across the UK, Norway, Holland, Kazakhstan, Azerbaijan, Egypt and Angola, Hydrasun offers unrivalled product and service solutions to meet customer's specific needs. We have recently committed significant investment in the development of our new purpose built Head Quarters facilities and the associated infrastructure in Aberdeen, Scotland UK. Our new Head Quarters will increase our stocking and manufacturing capabilities and further enhance the high level of support and service we provide to our customers internationally.

We aspire to be the clear market leader in the high service, high quality, high reliability segments of every market in which we operate. In this regard we are committed to the continuous improvement and development of every aspect of our business.

A variety of Services

By focusing closely on specific customer needs with a strong emphasis on service, safety, quality, technical integrity, reliability and environmental awareness Hydrasun has developed its capabilities to offer complete integrated service solutions to support its core product offering. Investment in key in-house engineering resources together with externally accredited management systems underpin our service delivery meaning that Hydrasun is seen as the leading service partner in the industries and markets in which we operate.

Hydrasun's product and service solutions encompass the following:

- Hoses and Fluid Transfer Solutions

Whether it's Low Pressure Industrial or High pressure Hydraulic hoses, Hydrasun can supply and assemble from our unrivalled size of inventory an extensive range of assemblies complete with end connectors made from standard or exotic materials. In addition, through our specialist manufacturing facility we can supply bespoke fittings to meet customer's specific applications. Complementing the above our field support services including Mobile Vans and Containerised workshops provide on-site assembly and maintenance support to customers worldwide.

- Hydraulic Power & Control

From the design, engineering, supply, installation and commissioning of hydraulic control lines and thereafter ongoing system inspection & maintenance Hydrasun can provide customers with a turnkey solution in support of the manufacture of topside & subsea production & control systems. Supplementing this is our ability to manufacture and supply flushing and pressure test rigs for commissioning & testing work.

- Instrumentation & Process Control

Our extended instrumentation portfolio, including products ranging from compression fittings, control valves, manifolds, tubing, gauges and differential transmitters is complemented by our experience in providing an integrated service from specification of product to bespoke manufacture, assembly & supply across the key instrumentation disciplines From our specialist manufacturing base we produce products ranging from control panels to close coupled instrument hook-up assemblies and populated enclosures.

On the recent In-Salah project in Algeria, one of the engineering objectives was to cut down on impulse line lengths due to potential build up of hydrates. With Hydrasun's knowledge and experience we were able to implement both Close Coupled Gauge and Differential Transmitter solutions that provided the project with greater operational & technical reliability. Our pro-active approach also saw us supplying all the hook-up materials from orifice carrier to transmitter, fully tested and assembled within an enclosure.

Our ability to manufacture high pressure test panels built in 3rd party approved steel framed structures has also seen us secure significant project orders worth approx £0.5m for Peroxide Dosing Panels for the PTTPE LDPE Plant Project in Thailand & the Azurite offshore development project in Republic of Congo in recent times.

- Umbilicals & Subsea Connectors

Through its Umbilical manufacturing facilities Hydrasun offer customers fast track turnaround of a complete turnkey umbilical solution: from umbilical production through to end connection termination complete with stabplate integration, pressure testing, flushing & provision of a complete documentation package, adding real value to overall project delivery to the end customer.

In recent times Hydrasun has secured a multi million contract award for the provision of short length Christmas Tree umbilicals for the Burullus phase VIIA – WDDM Development in Egypt and signed a framework agreement with an international service company for the supply of umbilical assemblies. Increased turnover within the division to over £5m during the last financial year, has enabled Hydrasun to invest over £200k in a new 36-carrier horizontal kevlar braiding machine facilitating the addition of tensile strength members to umbilicals and jumpers, further strengthening our position within the subsea workover and intervention marketplace. Production capacity has also been increased significantly through the provision of a second extrusion line.

Looking to the future, Hydrasun anticipate significant opportunities for continued growth in international markets and look forward to supporting both existing and potential customers by further enhancing our range of Umbilical and Subsea Connector solutions.

- Integrity Management

Hydrasun is the clear market leader in the provision of a formally structured Integrity Management programme in the field of Flexible Hose Assemblies and Small Bore Tubing to the oil, gas and marine industries with substantial resources committed to this service. Our track record in this area with major operators both in the UK and Internationally since the early 1990s is unrivalled.

From our extensive experience we offer a service that can deliver demonstrable benefits in terms of asset performance through the provision of a five step programme.

Hydrasun has extensive experience providing this service to customers worldwide. From the inspection, classification, testing, repair, recertification, supply and overall management of the technical integrity of hose assembly and instrumentation products within a customer's asset we can further support customer's operations onsite with fully equipped mobile container workshops. Our Surveyors are trained to the highest standards; in 2007 Hydrasun became the 1st company in its field to achieve OPITO accreditation for our Learning and Competency system for Hose Surveyors.

Through the development and implementation of a risk based maintenance strategy we ensure that the potential impact on customer's key business drivers, from loss of containment, is minimised by assuring the technical integrity & reliability of their assets.

- Engineering and Technical Services

Hydrasun's extensive engineering and technical resources mean that it can provide a technical authority service to customers on all aspects of fluid transfer and process control instrumentation products including application advice, performance reviews and recommendations as well as bespoke product development in line with specific application requirements. In addition our Technical Training department offer a wide range of training services to develop the competency of customer personnel.

Within the Egyptian Market

In July 2009, Hydrasun appointed Drexel Oilfield Equipment as our representative in Egypt as part of our ongoing international growth strategy. The Egyptian / North African Oil and Gas market is a key development region for Hydrasun and the appointment of Drexel provides the company with a strong local presence to ensure we become a market leader in high service, high quality and high reliability segments of this market.

Drexel Oilfield Equipment is a privately owned Free-zone company formed in 1976 to provide service and products to customers in the Oil and Gas sector in Egypt and the rest of the Middle East. Drexel specialize mainly in representation of foreign companies in the Egyptian market. The headquarters of Drexel is located in Maadi, Cairo and the company has a fully functional storage facility in the Free zone of Alexandria.

In addition to Hydrasun, Drexel represents other world-renowned principals in Egypt including Cameron, Reedhycalog, Aggreko, Castrol Offshore, Canusa-CPS, Offshore Joint Services (OJS), Agar Corporation, Global Industries, Total Safety, Petreco, Kongsberg Process Technologies Subdivision, e-Production Solutions, ClampOn, Norse Cutting & Abandonment (NCA), Drexel Diving Services and many more.

Drexel provides numerous support services to their principals including project/contract management, marketing/sales support, receivables tracking and logistics covering freight, customs clearance, transportation, warehousing and inventory management. Drexel's main focus however is managing principal-customer connections with the constant goal of relationship optimization.

Throughout the years, Drexel has maintained positive, strong ties with all the major operators in the areas of Services, Exploration, Drilling and Production.

Through Drexel, Hydrasun can offer customers within Egypt and the surrounding area an unrivalled service solution based on Hydrasun's extensive experience in the products and services we provide with support by Drexel in customer relations and their knowledge of the operational, environmental and logistical requirements of undertaking business within the region.

For more information on Drexel Oilfield Equipment, their principals and services, please visit www.drexelegypt.com. For all sales enquiries please contact: -

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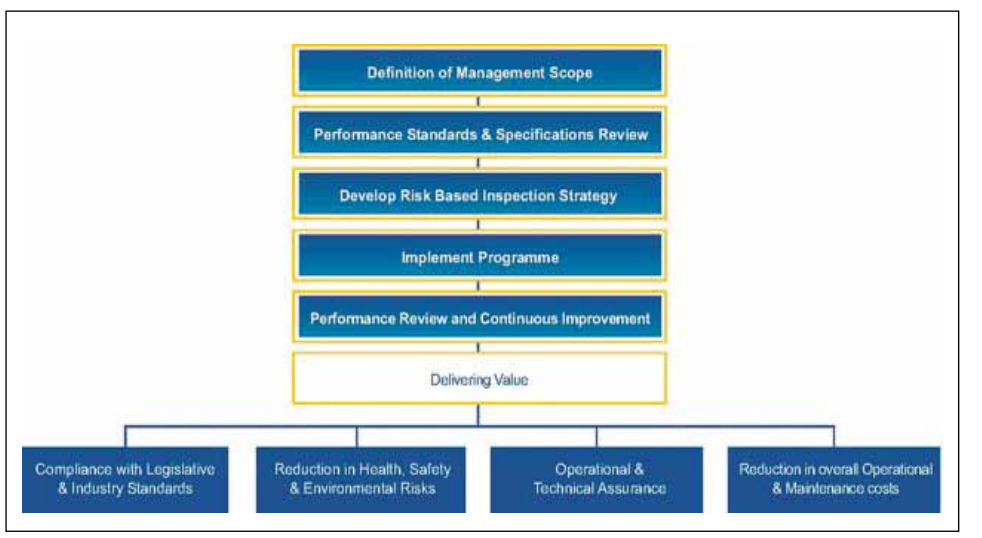
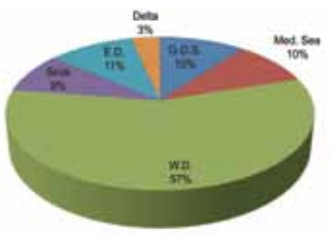


Egypt Statistics

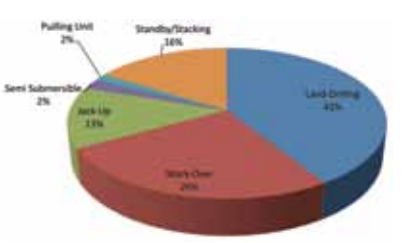
Table 1 Egypt Rig Count per Area - September 2010

Area	RIG COUNT	Total	Percentage of Total Area
Gulf of Suez		12	10%
Offshore	12		
Land			
Mediterranean sea		11	10%
Offshore	11		
Land			
Western Desert		65	57%
Offshore			
Land	65		
Sinai		10	9%
Offshore			
Land	10		
Eastern Desert		12	11%
Offshore			
Land	12		
Delta		4	3%
Offshore			
Land	4		
Total		114	100%

Rigs per Area



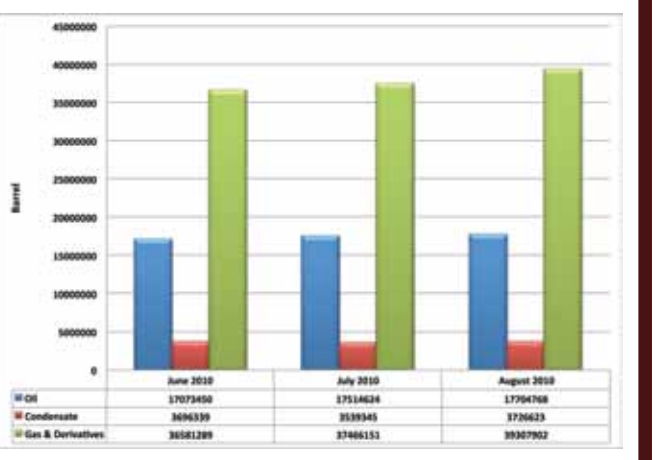
Rigs per Specification



Production - August 2010

	Sold Million cubic feet	Planned Million cubic feet	%	Oil Barrel	Equivalent Gas Barrel	Condensate Barrel	Liquefied Gas Barrel	Liquefied Gas Ton	Total Gas & Derivatives Barrel
Upper Egypt				20575					20575
E.D.				2292542					2292542
Med. Sea	132732	140926	94.19		26546400	1509904	363920	32348	28420224
W.D.	39299	39246	100.14	7602392	7859800	1901947	540362	48032	17904501
Delta	14767	13702	107.77	110926	2953400	208911	106094	9431	3379331
GOS	3222	2635	122.28	5571961	644400	60311	140532	12492	6417204
Sinai	325	248	131.05	2106372	65000	45550	87994	7822	2304916
Total	190345	204780	96.74	17704768	38069000	3726623	1238902	110125	60739293

	Actual	Planned	%
Oil	17704768	18299300	96.75
Condensate	3726623	3602355	103.45
Gas & Derivatives	39307902	40553394	96.93
Total	60739293	62455049	97.25



Source: Egypt Oil & Gas

Average Currency Exchange Rate against the Egyptian Pound (August 2010/ September 2010)

US Dollar	Euro	Sterling	Yen (100)
5.692	7.296	8.779	6.714

Stock Market Prices (August 2010/ September 2010)

Company	High	Low
Alexandria Mineral Oils [AMOC.CA]	47.5	44.32
Sidi Kerir Petrochamicals [SKPC.CA]	12.23	11.93

Table 1 Worlld Crude Oil Production (Including Lease Condensate) (Thousand Barrels per Day)

	Libya	Sudan	Other	World	OPEC[1]	Persian Gulf[2]	North Sea[3]
2009 October	1,650	500	2,380	**72,079**	30,993	20,577	3,595
Novemer	1,650	495	2,409	**73,128**	30,940	20,542	3,753
December	1,650	495	2,464	**72,878**	30,834	20,464	3,644
2009 Average	1,650	483	2,411	**72,302**	30,639	20,402	3,673
2010 January	1,650	500	2,414	**73,113**	31,068	20,571	3,689
February	1,650	510	2,435	**73,509**	31,163	20,650	3,600
March	1,650	515	2,451	**73,498**	31,074	20,581	3,682
April	1,650	521	**2,413**	**73,442**	31,048	20,607	**3,621**
May	1,650	525	2,424	73,339	31,108	20,725	3,485
2010 5-Month Average	1,650	514	2,428	73,377	31,091	20,626	3,615

[1] OPEC: Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
[2] The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.
[3] North Sea includes the United Kingdom Offshore, Norway, Denmark, Netherlands Offshore, and Germany Offshore.
Revised data are in ***bold italic font.***

Source: EIA

Table 2 World Oil Supply[1] (Thousand Barrels per Day)

		United States[2]	Persian Gulf[3]	OAPEC[4]	OPEC[5]	World
2009 October	E	**9,396**	23,167	24,061	34,343	**85,382**
November	E	**9,362**	23,136	24,022	34,286	**85,517**
December	E	**9,439**	23,083	23,950	34,199	**85,331**
2009 Average	E	**9,156**	22,890	23,805	33,873	**84,365**
2010 January	E	9,275	23,208	24,076	34,457	**85,463**
February	E	9,540	23,290	24,148	34,560	**86,129**
March	E	9,587	23,261	24,102	34,507	**86,175**
April	E	9,542	23,311	24,148	34,508	**86,093**
May	PE	9,639	23,488	24,308	34,629	86,156
2010 5-Month Average	PE	9,516	23,312	24,157	34,532	86,000

[1] «Oil Supply» is defined as the production of crude oil (including lease condensate), natural gas plant liquids, and other liquids, and refinery processing gain (loss).
[2] U.S. geographic coverage is the 50 States and the District of Columbia. Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE plants. For definitions of fuel ethanol, oxygenates, and merchant MTBE plants
[3] The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.
[4] OAPEC: Organization of Arab Petroleum Exporting Countries: Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.
[5] OPEC: Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
E=Estimated data. RE=Revised estimated data. PE=Preliminary estimated data.
Revised data are in ***bold italic font.***

Source: EIA