In September, KPO will undertake a major facility shutdown of the equipment and assets currently committed to this time. It is important that we pay attention to the work that has been ongoing for some time, the shutdown is to commence on the 15 September and we anticipate that it will take between 30 and 35 days to complete. At the same time we will complete the work in Karachaganak Processing Complex for the fourth stabilisation train, which is due to be commissioned in 2009. Train 4 will enable KPO to increase its liquids production. However, one of the major challenges we face is managing this technically complex field in a safe way.

Karachaganak is a sour gas condensate field which means that the hydrocarbons have high concentrations of hydrogen sulphide present – this represents a major technical challenge as H2S is both extremely dangerous and highly corrosive. KPO’s gas reinjection scheme at Unit 2 is one of a kind – up to 21 million cubic metres per day of sour gas is injected at pressures of up to 550 bar. This makes it one of the highest pressure sour gas injection schemes in the world.

Given these challenges and risks, it is vital that safety remains at the core of every KPO does. Shutdown and Planning Manager, Paul Jackson also stated, “Planning for this major shutdown has been ongoing for some 19 months and we currently have a dedicated team of 15 people from maintenance specialists to engineers and logistics experts working to ensure it runs as smoothly as possible. Essentially, the role of the Shutdown and Planning group is to not only manage the schedule and costs associated with the shutdown, but to ultimately, ensure safe access to vessels for our team of inspectors. A vessel is a closed container designed to hold gases or liquids at a pressure which is different to that of the ambient pressure. Of the 800 vessels at Karachaganak, KPO will be inspecting over 200 and some 170 pressure safety devices during the shutdown. It will involve every major piece of equipment within the Karachaganak Processing Complex, Unit 2, Unit 3, infield and gathering pipelines as well as sections of the export lines. In the lead up to and throughout the shutdown it is anticipated that some 2000 additional personnel will be working either at the field or in Alkair to support the implementation and execution.

Planning for the Shutdown is broken down into three main components: Infrastructure and logistics; Planning; and Preparation. Around 2000 additional personnel will be involved in the execution and this will require additional accommodation, catering, security and transportation. Coordination and management of the logistics is a key component of the shutdown plan and it is managed by the KPO Infrastructure and Services department. Security will be provided to ensure that only those authorised will be allowed onto site and will cover not only the field facilities but also the expanse of export pipelines.

The KPO Security department, in cooperation with the Kazakh national police and the KPO Security department, will be in a position to implement this programme.
KPO General Projects Department - Stepping up to the challenge

Operating a facility the size of Karachaganak requires a huge amount of support – from logistics and services to finance and management. Earlier this year, one of KPO’s key departments undertook a dramatic organisational change designed to better equip the department to support the ongoing management of Karachaganak.

Formerly known as the Engineering and Projects department, the 470 strong General Projects team focuses on delivering projects associated with optimising and modifying the existing Karachaganak facilities.

KPO General Projects Manager, Gary Morgan, stated, “Only six months after the reorganisation we are seeing improvements in efficiency and the way in which we are delivering support to our clients. Our new matrix structure is providing flexibility and helping us to respond to challenges faster than previously possible.”

Among other achievements, there has been good progress in planning and resourcing as well as improvements in internal processes.

While the department is broadly focused on implementing projects associated with the existing facility, it is also currently managing the construction of the Uralsk Gas Pipeline (UGP) – a 148 kilometre major infrastructure project which will link Karachaganak with the West Kazakhstan Oblast of Uralsk. While KPO will manage the construction of this strategically important Social Project, the West Kazakhstan Oblast Akimat will be responsible for the regasification of villages and towns along the route.

Almatty based KazStroyService (KSS) has been contracted by KPO to construct the main line and following completion of this phase, the pipeline will be passed to a specialist transmission and distribution firm selected by the West Kazakhstan Oblast Akimat. This firm will subsequently be responsible for operating and maintaining the line.

Over time, it is expected that the supply of natural gas will encourage further industrial growth and expand the Oblast’s economic potential. Gas supply from Karachaganak will also reduce Kazakhstan’s dependence on Russian imports and eventually enable the delivery of locally produced natural gas to towns & villages.

The 20 inch pipeline will tie into the existing Karachaganak Processing Complex (KPC) and will share a similar corridor to the existing KPC – Atyrau export condensate pipeline for a large proportion of the length.

At the end of July, some 40 kilometres of the 70 kilometres of pipeline already produced has been delivered to site by a leading German pipe manufacturer, Mannesmann. Mannesmann started manufacturing the pipeline in May and over the course of the next three months, the remaining part of the main line pipe will be produced and railed to Kazakhstan from the factory in Germany.

Recently, the UGP Project management team accompanied the West Kazakhstan Oblast First Deputy Akim, Mr Nogayev and the Director of the Department of Energy & Municipal Engineering, Mr Dysembaev to the Mannesmann pipe factory in Germany.

The trip provided an opportunity for the Akimat representatives and KPO management to see first hand the manufacturing process and quality of the workmanship. The steel pipeline is electric welded to API international standards.

Mobilisation of the construction workforce continues and it is expected that some 530 workers will be required during peak construction activities. In both Uralsk and Aktau, construction teams are currently completing inductions and safety training to KPO standards.

As with any KPO project, safety is central to the way in which it is executed. The general projects team has a particularly difficult challenge in this area due to the very short construction season in Kazakhstan. By November temperatures could be as low as zero degrees Celsius bringing weather conditions which inhibit safe progress. This challenge has been compounded even more in 2008 with upcoming shutdown activities. In September KPO will embark on the world’s largest single total facility shutdown. Some 2000 additional people will be required on site and in Aktau to implement the month long shutdown programme.

As part of an ongoing organisational effectiveness initiative General Projects will be relocating non-operational positions from field locations to Aktau over the course of the next year. This will reduce the number of people required to travel to the field and enable many people to assume a normal five and two work pattern in line with other departments based in Aktau and Uralsk.

KPO Management, together with the Human Resource department, is currently developing appropriate policies and a transition plan to address changes in schedules amongst other factors impacting the move. General Projects is broadly structured into five project teams which are functionally supported by specialist engineering, construction, project services, permits & licenses, quality assurance and administrative teams.

The team of 470 people provides services to a number of internal departments including plant enhancement, field operations, well operations, infrastructure and services and the project directorate. They deliver work programmes with the support of an average additional workforce of 550 personnel.

The work which General Projects is undertaking today is positioning it well for tomorrow. The team are working hard to develop a flexible and responsive department which supports the optimisation of the existing facilities.

First step in a journey to work with KPO

On 19 July, KPO held the first award ceremony for fifty eight students currently undertaking post-graduate training within the KPO Operations Directorate. They have successfully completed the first stage of a training programme based on OPITO, the UK Oil & Gas Academy. This programme is delivered for KPO by Abloy Technical Training, which is the only provider in the CIS authorised by OPITO to deliver technical training in Russian.

The official ceremony was attended by KPO top managers including James Clark (Human Resources Controller), Andrew Breeze (KPC Manager), Oleksandr Rastorguev (Training and Development Manager) who warmly congratulated trainees on the completion of their first stage and passed on their best wishes for future studies. In his welcoming speech, James Clark, stressed the importance of serious efforts to study technical disciplines and said: “This is your first step in a big journey to work with KPO.”

Over the past two years, Karachaganak has spent over $21 million on local staff development. In 2007, KPO delivered over 288,000 training hours to staff. In addition to formal education, KPO also utilises ‘on the job’ training and parent company placements.

Earlier this year, KPO launched the largest graduate development programme in Western Kazakhstan. Over 150 graduates are undertaking training in three main areas including engineering, operations and maintenance.