



Fujairah Water Project, UAE

Punj Lloyd has recently completed its first tankage project for Union Water & Electricity Company of the UAE Offsets Group in Abu Dhabi.



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overcoming logistical
difficulties of
construction



100 MIGD of potable water was to be transported from a desalination plant at Fujairah to Al Ain (~180 km) and from the main pipeline to Al Dhaid (~19 km). The project involved design, procurement, execution, commissioning, testing and warranting of the pipelines, pumping stations, storage tanks and other installations. This is a part of the Fujairah Water and Power Project, UAE. The contract was awarded to the consortium of Technip, Germany and Al Jaber Energy Services, UAE on EPC basis. They in turn entrusted Punj Lloyd with the construction of the tanks in spite of stiff international competition in December 2001.

The contract involves engineering, procurement and mechanical construction of five tanks of 83 m dia x 18 m height, two tanks of 59 m dia x 17.8 m height and two tanks of 47 m dia x 15 m height, having column

supported cone roofs. The scope also included impressed current type cathodic protection system (external and internal) and surface preparation along with special food grade painting suitable for potable water storage.

The engineering of the largest atmospheric tank built so far by us has been carried out with in-house expertise. For the first time our engineers have designed and constructed column supported cone roof tanks, which needs special techniques of construction.

Our engineers are experienced in working against extremities like sandstorms with high winds, high ambient temperature, overcoming logistical difficulties of construction on rocky hills and barren deserts.

Out of the nine tanks, two were built on hilltops and the balance in desert

terrain. There were five different sites for the construction of nine tanks spread across the Emirates.

Good Project Management and the dedication of a group of specialist engineers enabled us to complete the project on time in September 2004.

Punj Lloyd has established itself as a major engineering construction company in Oil & Gas and infrastructure development in the Middle East. We have been qualified by major oil & gas companies of UAE, Oman and Qatar and are participating in different EPC projects.

◆ Amitava Bose

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Pipeline laying in the **most environmentally sensitive area** of Borjomi, Georgia



It is clear evidence of client satisfaction when repeat contracts are awarded. Impressed with Punj Lloyd's work on the Turkish section of the Baku-Tbilisi-Ceyhan pipeline. We were awarded the twin line construction in Georgia of 53 km each of 46" dia of the BTC pipeline and 42" dia of the South Caucasian pipeline which began in March 2004.

This section of the pipeline at Borjomi, Georgia is the most environmentally sensitive area, between the Turkish and Georgian border.

The area is the home of the world famous Borjomi Kharagauli National Park. A number of endemic species of flora and endangered species of fauna can be found in this region. The entire stretch is highly undulating,

requiring every third pipe to be cold bended. Steep slopes upto 390 m long and ranging upto 26° appear regularly in the ROW, challenging not only our construction team but the environment task force for erosion control.

In line with our international policy, 70 per cent of our workforce are Georgian nationals and the rest of our skilled manpower are Azeri,



American, Bolivian, British, German, Indonesian, Indian, Italian, Kiwi and Turkish.

Punj Lloyd's scope consists of complete construction of two pipelines in separate trenches along with the construction engineering, installation works of cathodic protection, optical fibre cable laying and civil work of a metering station near the Turkish Border.

Health, Safety and

Environment are the key performance parameters of Punj Lloyd. We have, till September 2004, achieved the following:

- Adjudged twice in the last six months, one of the best spreads of the twin pipeline project on Environment and Waste Management by World Bank Auditors
- Completed 2 million man-hours without lost time accident
- Completed 1.2 million km accident free driving





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most environmentally sensitive area



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protected
30 archaeological
sites within the
55 km ROW





- Protected 30 archaeological sites within the 55 km ROW
- Protected natural springs and streams in Borjomi
- Operating fully equipped medical services with regular alcohol and drug testing facilities

The most challenging component of the project is the short construction span between June and October. The long and harsh winter makes it impossible to work and reduced our construction time from eight to five

months. We mobilised 56 major earthwork equipment, 26 pipe layers, 24 automatic welding stations and 60 trucks, tippers and trailers. For the first time in the history of Punj Lloyd, we are working in cross-border areas (no man's land). When hooking up the Georgian and Turkish sections of the pipeline we will establish a new landmark in the friendship between two countries.

A substantial part of the Baku-Tbilisi-Ceyhan crude oil pipeline has been completed and work on the South Caucasian gas pipeline has begun. The whole team is working towards successful completion of the project within its stipulated time frame, with many more achievements to celebrate.

◆ P K Bali



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btc and south caucasian
twin pipeline in georgia



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70 per cent of workforce
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the world

Mock fire, **real alertness**

One of the many measures we take to eliminate the possibility of a crisis is to ensure regular safety drills at sites.

Our level of alertness and safety awareness proved to be extremely high at the latest Fire Safety Drill at Spread II, Akhaltsikhe camp in Georgia. On September 2004, the Safety department carried out the drill which was attended by more than 150 employees.

A mock fire was organised at the mechanical yard at 1500 hrs. The fire alarm alerted everyone immediately and they congregated at the muster point without any panic. The emergency crew took up their predetermined positions to combat the situation. Those who were nominated to be members of the communication team informed the ambulance and the fire brigade immediately.

It took the mechanical yard team five minutes to gather at the muster point for the headcount. Our own fireman at the mechanical yard was able to contain the fire before the fire tenders arrived at site. The fire brigade extinguished the fire within two minutes of their arrival.

At the onset of the siren the main gate was locked and no outside vehicles other than the fire brigade and the ambulance were allowed to enter the camp. At all stages of the drill the reaction time was found to be extremely fast. Everyone knew the urgency of the situation, was aware of their respective course of action and acted accordingly.

After the fire was put out Safety Managers congratulated all involved on their awareness. The fire safety drill at Georgia site is just one example of the Punj Lloyd mark of excellence displayed in all spheres of our activities, especially in Health and Safety.

◆ Krishna Rao

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Safety milestone at Georgia

It was an extremely exciting time for our pipeliners at the Akhaltsikhe camp, Georgia. One million safe manhours were reached in July 2004, with everybody's co-operation and dedication. It was a proud moment for us when our Chairman Atul Punj visited Georgia and received the safety award on behalf of the company from BTC Project Manager Georgia, Jaime Potes and Leon Grayson, BTC Site Representative for the Spread. Some of our other major feats achieved then were 1,025,307 km of safe driving, 25,250 hours spent in training our manpower and also the 100% completion of the front end activities of the BTC pipeline. It is a BP practice worldwide to celebrate after achieving 1, 5 and 10 million safe manhours with pomp and show.

The celebrations started with an inspiring speech by Krishna Rao, *Manager Safety*. He highlighted the impressive safety data. One million safe manhours without any day away from work cases was declared by P Y Secretin, *Project Manager Amec Spie Capag-Petrofac Joint Venture (SP JV)*.

It was a cake and champagne event with Jerry Nowlin and Neil Smith, *Safety Officers BTC* declaring the one million manhours achievement! Everyone felt charged

to repeat this feat many times over.
 Leon Grayson, *BP Project Chief, P Y Secretin, Project Manager, SPJV, Graham Brooks, Construction Manager, Dr U Banerji, Manager Environment, PLL, Jerry Nowlin and Neil Smith BP Safety Officers* together cut a cake with one million written on it! However, the gathering was already visualising one with two million. In September, this milestone was soon achieved when we crossed two million safe manhours at Georgia.

To emphasise the importance of health, safety & environment and inspire everyone, the "Five Star Incentive Programme" was launched formally on this occasion. This will be implemented in addition to the 'STOP/ASA' card system already in place. The first recipient of the five star programme was Leon Grayson and P Y Secretin.

At the end of the programme everyone had vowed to continue the success story and keep achieving higher targets while working on this project.

Everyone involved in this projects are working very hard to bring prestigious projects to its successful conclusion and to celebrate the D Day with pride and joy.



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winning accolades

'Belgaum to Maharashtra Border - km 515 to 595 - Contractor Punj Lloyd-CTNL JV: The contractor has implemented road safety measures in the best manner. All other contractors and consultants should be directed to implement Road Safety measures in line with Punj Lloyd.'



Training at Punj Lloyd

We believe that training is the lifeblood of any organisation. Only with constant training is it possible for organisations to retain their competitive advantage. To compete on

an international platform, we provide appropriate and continuous training to all our people, thereby building their skills.

Our training calendar includes a broad range of advanced and result-oriented programs designed to cater to the contemporary needs of the construction industry. They are divided into technical, behavioural, ERP, general management and HSE related training surpassing the exacting standards of our clients.

Our first priority lies



The renowned NGO

Kumari Rajashree Parmar Memorial Foundation (KRPMF), does pioneering work for prevention of road accidents. Their mission is road traffic safety and environment management. The foundation is also a member of the advisory group to National Highways Authority of India (NHAI). Recently, they had undertaken a

journey from Pune to Belgaum and then on to Bangalore to audit the implementation of road safety measures by the contractors. Their observation highlighted the fact that Punj Lloyd is the only contractor not only to satisfy all the norms but in many cases to supercede them.

With the completion of the Belgaum-Maharashtra Highway of the NH-4,

vehicular traffic can now zip at speeds of 100 km/hr while enjoying not only a well laid out road but also the ravishing natural beauty of the surroundings which has been captured all along this stretch. This road brings an essence of the European autobahns to the Indian motorist with its high quality construction, beautiful surroundings and efficient management.

Easy comfortable accessibility coupled with a thoroughly enjoyable drive will henceforth inspire many tourists to travel from Mumbai to Bangalore by road along with significantly facilitating commercial traffic. This is the first project of the Golden Quadrilateral to be completed and is the dawn of the realisation of India's infrastructural dream.



with Health Safety and Environment and all training is related to that. On joining any of our Strategic Business Units, a compulsory Quality and HSE training is given. On completion of this they go through project specific training depending upon the project to which they are assigned. At the end of this training every employee has to undergo an examination conducted by the HSE department officials. Only on clearing these, are they allowed to work at site. At the

sites our HSE department conducts refresher courses regularly. These comprise both classroom and hands on sessions, at the end of which performance is strictly evaluated. Our HSE team is ever vigilant at site and whenever required they are prompt to organise another round of training. Our HSE emphasis also extends to activities like putting up HSE related news on bulletin boards, rewarding exceptional HSE performance with client and management

adulation and reward, conducting safety drills.

The skill based technical training we organise for the workforce are specific to SBUs and candidates are selected on a requirement basis.

For successful marketing of services and completion of projects across the world, Cross Cultural Management is another subject which we cover in our training. We feel that it is absolutely essential for the top-line managers to have an understanding of variables like culture,

people, work ethics, local regulations and business etiquette. In our training exercise, as on our projects we work on targets. We have decided to provide six days of learning experience to everyone in the organisation in a year.

Life is dynamic and so is the workplace, one has to constantly learn and evolve to be a living, breathing part of this active cycle and our endeavour is to facilitate that process for all our employees.

◆ Shampa G Chowdhury
and Priyanka Nanda



development in all its manifestations

We are committed to development in the countries where we work. As a testimony we have a regular medical and dental check-up facility for school children in Sungai Mariam, Indonesia. One of the camps was held at a village school in Sekolah Dasar Negeri Nomor, close to our ROW. As a part of this programme, 106 students of classes 5 and 6 underwent a thorough medical check-up under the able supervision of our camp medical officer. We had invited Dr Yanti, the visiting faculty of Samarinda Dental School and a renowned dentist to

conduct an examination of the dental health of the kids. The children were rewarded for their enthusiasm with story books and sweets. An informative audio visual presentation on Good Health and its benefits was made to them during this camp. Children were explained the value of a nutritionally balanced meal and to take utmost care of personal hygiene. We believe in the dictum 'catch them young' so we utilised this opportunity to also inform our young audience about the basic guidelines of waste disposal. By the upward filtration process, we



are sure these alert and aware youngsters will not only improve their own lives but also bring about betterment in their immediate families, surroundings and by expansion to the entire village. This Indonesian venture, like many others is one small step for us in our constant endeavor to spread messages of Health, Safety and Environment to everyone

whose lives we touch in the course of our work so that eventually this global village is a better place to live in.

◆ Prashant Kolwalkar



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