



Punj Lloyd
GROUP

January-June | 2015

The Punj Lloyd Magazine

update

Punj Lloyd | Sembawang | PL Engineering

- 2 tête-à-tête with Punj Lloyd's MD and Group CEO
- 5 Myanmar-China Oil & Gas Pipeline Project
- 20 Punj Lloyd works with Vale to bring iron ore closer to customers
- 28 Punj Lloyd in the News!
- 30 Projects Recently Completed
- 32 Recently Won Projects
- 34 Punj Lloyd HSE Recognition 2014-15

Myanmar-China Oil & Gas Pipeline Project



tête-à-tête with Punj Lloyd's MD and Group CEO

Punj Lloyd saw a change in leadership in 2014 with the joining of J P Chalasani as the MD and Group CEO. On his completing 18 months at Punj Lloyd, the Update team met up with the soft spoken and modest leader on his challenges, achievements and victories in Punj Lloyd so far. An excerpt of the interview is reproduced below:

You are very well known in the industry. What attracted you to join Punj Lloyd?

Punj Lloyd was facing various hurdles, internal and external, and I felt it was a great opportunity to go through the challenges and be part of the turnaround efforts. Coupled with this I was impressed by Atul's foresight and vision for Punj Lloyd in my very first meeting with him. It was his charisma and leadership that intrigued me. I could relate to him instantly. He asked me to lead his company as the Group CEO & Managing Director. Just then I had left Reliance Group after an 18 year stint.

How has your experience been so far?

Demanding and enriching! While I have held posts of equal authority prior to assuming the role of MD and Group CEO at Punj Lloyd, the exposure to a marquee international clientele was an altogether new experience!

Though I had enough global exposure, I found myself in a new space with a new set of challenges as Managing Director of Punj Lloyd, responsible for overseeing the operations across 23 countries. Simultaneously, I had to change my mindset and don a new hat – one of a service provider and this added a new perspective to my understanding of operations, where earlier, I had predominantly called the shots as a client!

You have been rated as the 'Best CEO' in many employee surveys.

How was your experience with internal employees of Punj Lloyd?

In any company, the management and employee relationship is directly dependent on how an employee perceives his or her stature within the company which transcends beyond his or her level in hierarchy of the organisation. It is about self esteem. It is but natural to want to be recognised for your worth. And this pride of place has to be inculcated in each employee for this bond to develop. At Punj Lloyd, I was received with open arms and allowed

to steer in the direction I thought the company should head! I initiated open communication channels with all employees, irrespective of their position in the company and where they are located. This has led to one-on-one relationships and extremely close bonding.

What were your main focus areas in this one year!

For an organisation as dynamic as Punj Lloyd, one needs to focus on multiple aspects of business and those beyond it. My first focus was on my employees as I strongly feel that it is important to capture the share of voice of each employee. For this I initiated many new processes. I introduced 'CEO Konnect' wherein any employee could write to me, irrespective of their location. Townhalls (group gatherings) that I initiated have now become a regular feature and the employees know that they will hear from me quarterly, bringing in greater transparency and opening up channels of communication further. Then I encouraged organisation of internal events which served more to enhance comradeship. On the business front, focus on improving project execution and delivery, client satisfaction, debt reduction, hastening recoverable claims and

augmenting process efficiencies continues with equal intensity.

Punj Lloyd reached an order backlog* of Rs 21,152 crores in FY15, which was predominantly from overseas projects? Please tell us more about these orders.

Yes FY15 has been good in terms of our order backlog which also reflects our presence across infrastructure and energy. We won a mega ₹ 3515 crore (USD 581 million) RAPID Tank Farm order in Malaysia and a ₹ 1400 crore (USD 236.09 million) project from Kuwait National Petroleum Company. In India, we received a ₹ 666 crore highway contract from the Ministry of Road Transport and Highways which is part of a cooperative project for improving transport facilities across 32 nations and providing road links to Europe.

You have been seen to drive punctuality very strongly within the organisation. Why do you feel so passionate about it?

It is said that "You may delay, but time will not." Time for me is respect. At your workplace, punctuality reflects your respect for your workplace, for your colleagues and

My first focus was on my employees as I strongly feel that it is important to capture the share of voice of each employee.

*The order backlog is the value of un-executed orders on March 31, 2015 plus new orders received after that date.

It is said that “You may delay, but time will not.” Time for me is respect. At your workplace, punctuality reflects your respect for your workplace, for your colleagues and for your clients.

for your clients. As a service provider, time is of essence. We can choose to be ahead of time or let time overtake us.

What is that one thing you are intolerant of?

Dishonesty undoubtedly! Honesty is that one single attribute that can drive the health of companies and

that of the nation. Unfortunately it is compromised by many who do not realise how reprehensible it is.

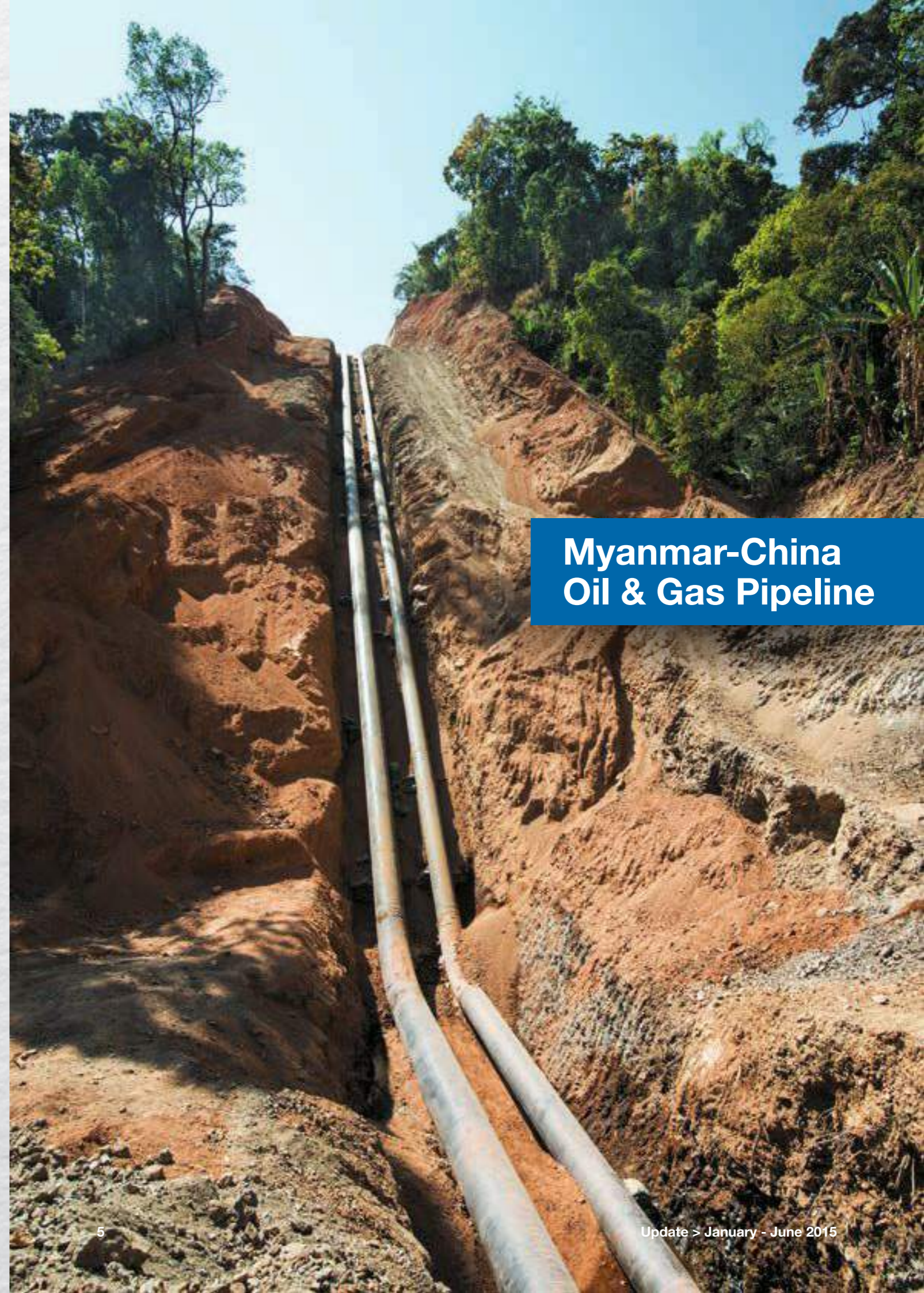
How do you think 2015 will pan out for Punj Lloyd?

Punj Lloyd has been in the field of EPC for over 25 years. It is a brand that can endure the harsh global economic uncertainties with its strong foundation and delivery. It continues to be the preferred EPC partner for global clients that lay high focus on quality and safety. 2015 is looking upbeat in India with the change of regime and the proactive steps being taken for infrastructure development. Globally, it is being debated that the falling oil prices, initially a cause of worry, could just be a blessing in disguise. There is enough spending on infrastructure

being planned that makes me believe that the opportunities for Punj Lloyd are many, including in its relatively newer business of Defence.

What are your thoughts on India and how do you wish to see your country?

Any Indian would agree that with a few steps in the right direction, India can take a major leap forward. I see that happening now. I have spent a large part of my career in the power sector and strongly identify with the Prime Minister’s vision of seeing power in every household by 2019. India is moving towards becoming energy reliant. The ‘Make in India’ programme will also give an impetus to manufacturing within the country, especially in Defence. Exciting times for India! ♦



Myanmar-China Oil & Gas Pipeline

In keeping up with our tradition of recruiting the local population, 42% local manpower was hired for skilled and semi-skilled jobs at the Punj Lloyd site. Punj Lloyd deployed 1047 local workers belonging to assorted nationalities - primarily Indian, Chinese, Burmese, Indonesian, Malaysian and Singaporean.

Atul Dhaundiyal
Vice President
Punj Lloyd Limited

Overview

China and Myanmar have come together to build a landmark project comprising a US\$ 1.5 billion oil pipeline and US\$ 1.04 billion natural gas pipeline. These projects are being implemented by two companies registered in Hong Kong - SEAOP (South East Asia Oil Company Limited) and SEAGP (South East Asia Gas Pipeline Company Limited) for the oil and gas pipeline respectively. CNPC South East Asia Pipeline Company Limited, which is a 100% subsidiary of CNPC-China, has the majority shareholding in both SEAOP and SEAGP. In SEAOP, the other minority partner is MOGE while in SEAGP, the other minority partners are Myanmar Oil & Gas Enterprise (MOGE), Daewoo International Corporation, South Korea, ONGC CASPIAN E.P. B&V, Netherlands, GAIL (India) Ltd., India and Korea Gas Corporation.

The gas pipeline starts from Kyaukphyu Island, located on the west coast of Myanmar in the Rakhine state. The oil pipeline starts from Maday island which is 22 km downstream of Kyaukphyu island. Both pipelines are laid in

parallel, passing through Rakhine state, Magway division, Mandalay division, Shan state and enter China through Nam Kham. The total length of the pipeline within Myanmar is approximately 792.5 km with 40" dia for the gas pipeline and 32" dia for the oil pipeline. The oil pipeline eventually terminates in Kunming, capital of Yunnan province, while the gas pipeline extends further from Kunming to Guizhou and Guangxi in China, running a total of 2,806 km.

The source of gas for the pipeline is from Shwe fields, A1-A3, located in the Andaman Sea off Myanmar, whereas crude oil will be imported and fed to the oil pipeline at Maday Island where a port, crude oil storage, and pumping facilities have been constructed.

These two pipelines open a new energy corridor for China, which will now be able to access the offshore gas reserves in Myanmar and crude oil from Middle East to meet the demand of its provinces located close to Myanmar-China border. Both oil & gas pipelines have been commissioned. The oil pipeline has been under commercial operation since July 15, 2013. These two pipelines have also increased the revenue for the Myanmar Government.

Punj Lloyd pipeline construction section 1A is located in the Rakhine state and the pipeline passes through areas like Kyaukphyu, Maday island, Kabaine, Ann, Sintontai and Padan.

The gas pipeline starts from Kyaukphyu's initial station and after crossing the Kalaba trench, it reaches the Maday island, which is also a start point of the oil pipeline. Both the pipelines from Maday island are then laid in close proximity and parallel to each other. From Maday, the pipeline moves towards the east and pass through the 5.56 km long Fletcher Hayes Strait with water depths of 20-22 m, through six navigable river trenches including the Ye Gaung Chein trench, till Weichang. After Weichang, the pipeline are laid at a distance along the Ann-Magway highway. After crossing Ann, they pass over the Rakhine mountain range to reach Padan. Valve Stations are built along the pipeline. The oil pipeline has one pump station at Sinkontai which is located along the Ann-Magway highway.



The multi-skilled, multi-cultural and multi-national workforce was in complete harmony facilitating the ease of working as a team. The inducted workers were qualified and motivated to measure the task and challenges dictated by difficult terrain and climate.





Scope of work

Punj Lloyd is the first major Indian EPC company to work on this momentous project. Owing to its expertise with similar challenging pipelines, the Group was awarded the EPC contract for the toughest section of the Myanmar-China crude oil and gas pipeline project, Section – IA consisting of laying 32" dia, 143 km long oil pipeline and 40" dia, 165 km long gas pipeline.

The scope of work of the project included construction of three major stations - Kyaukphyu gas initial station, Maday oil initial station and Sinkontai oil pump station, apart from the 15 block valve stations enroute the pipeline.

This project brings to mind another transnational pipeline executed by Punj Lloyd, the BTC (Baku-Tbilisi-Ceyhan) pipeline. Also known as the Pipeline of the Century, it was the first transnational pipeline

executed by Punj Lloyd across the Taurus mountains of Turkey and the Caucasus mountains of Georgia.

Myanmar adds a new geography to Punj Lloyd's existing list of international offices in 22 countries spread across Asia Pacific, South Asia, Middle East & Africa and Europe.

Punj Lloyd's scope of work also included 6 km of offshore pipeline and 5 Horizontal Directional Drilling (HDD) crossings for the oceanic trench portion of both the pipelines.

Resource Mobilisation

In order to deliver with utmost effectiveness and efficiency, specialised equipment was purchased. Technical evaluation and commercial comparisons were made for each equipment before purchasing. A special double sided pipe carrier with a maximum carrying capacity of 16T, allowing

faster stringing worked efficiently on extremely rough terrain and steep slopes of the Rakhine hills.

Punj Lloyd deployed its pipelay barge 'Kuber' for pipelaying in the 5.56 km long Fletcher Hayes Strait offshore section of the pipeline and pipelay barge 'Ganpati' for pipeline construction in the swamp section. A fleet of specialised equipment like flexi float for tie-in and marsh buggy excavators was mobilised for pipeline trenching in marshy areas. These together with Punj Lloyd's rich fleet of pipeline equipment including 90T/70T side booms, excavators, dozer and semi automatic welding system played a key role in the successful execution of the project.

Deriving strength from manpower

In keeping up with our tradition of recruiting the local population, 42% local manpower was hired for skilled

and semi-skilled jobs at the Punj Lloyd site. Punj Lloyd deployed 1047 local workers belonging to assorted nationalities - primarily Indian, Chinese, Burmese, Indonesian, Malaysian and Singaporean. Skilled workers such as welders and grinders underwent refresher training at Punj Lloyd's training centre at Banmore, India prior to their appointment on the project.

The multi-skilled, multi-cultural and multi-national workforce was in complete harmony, which facilitated the ease of working as a team. The inducted workers were qualified and motivated to measure the task and challenges dictated by difficult terrain and climate.

Regular training sessions were organised at the site for the workforce to educate them of various programmes that would augment their productivity. The client was highly appreciative of Punj Lloyd's

safety record of more than 8.75 million safe man hours over a period of two years.

Hurdles and challenges

The experienced team consisting of specialists in engineering, project management and pipeline construction, were unfazed by the daunting challenges facing them, leading to the timely completion of both the gas pipeline and oil pipeline.

Punj Lloyd established a Project Management Team (PMT) in Yangon and two construction management teams were based at the base camps cum pipe yards, located at Kyaukphyu and Padan. Work on the oil pipeline started concurrently with the gas pipeline. However, the initial station for the oil pipeline was on Maday Island, at a distance of 22 km. The only means of transport available were small motorboats and barges that facilitated the transportation of



The pipeline terrain was extremely varied, ranging from light powdery soil in summer, to clayey soil during the monsoon. There were isolated islands with marshy and undulating terrain (64 km) steep Rakhine hill slopes of 101 km.



pipe and equipment. Change of tides during the monsoon period were a major hindrance in planning the forthcoming stages. With the pipeline route divided into several smaller spreads, on evaluation of logistics and the geographical situation, seven satellite camps and two accommodation barges were established for pipeline construction in swampy sections. The telecom infrastructure in Myanmar was nonexistent along the pipeline route, therefore walkie talkies were the only source of communication in the

initial stages of project execution. However, with great perseverance, the project received support from the Government of Myanmar to set up telecom stations at some locations. Also, the pipeline terrain was extremely varied, ranging from light powdery soil in summer, to clayey soil during the monsoon. There were isolated islands with marshy and undulating terrain (64 km) steep Rakhine hill slopes of 101 km. Logistics was the major challenge as all the construction equipment and project material was sent through LCT/Barges to the area and subsequently to the construction

site through smaller barges/LCT. 200 km (approx 17,000 lengths) of line pipes were shifted to site through barges and LCT.

The region witnessed abnormally heavy and long monsoon from mid June to end October (i.e. for a duration of around 4 and ½ months). This led to cutting off of the ROW, heavy landslides, damage to roads and bridges. The availability of

construction material such as sand, aggregate, boulders was a constraint during the monsoon period. The soft soil of the hills during the monsoons, made it very dangerous to work. Movement of barges in the swamp area was also restricted.

Maday Island's initial station of the oil pipeline is the biggest station of the Myanmar-China pipeline project and is located on an isolated island with no road access. The entire operation on this island was dependent on the barge movement which was very frequently affected by changing sea conditions and tides, making it difficult both logistically and economically.

Sinkontai oil pump station is located at the highest point of the

Punj Lloyd's installation engineering team devised a feasible methodology for pipe-laying in this difficult terrain, after many brainstorming sessions with CPPE (China Petroleum Pipeline Engineering Corporation), Land and Marine (UK based company hired for engineering of the push-pull operation).

pipeline, making it totally inaccessible during monsoon. It was extremely challenging to lay the pipeline in varied and diverse terrain, as conventional methods of pipe laying were not feasible.

With extensive experience of offshore work, Punj Lloyd was familiar with the nuances of work at sea and shore approach and the



The experienced team consisting of specialists in engineering, project management and pipeline construction, were unfazed by the daunting challenges facing them, leading to the timely completion of both the gas pipeline and oil pipeline.





need to meticulously plan various aspects of execution, especially shore pull. This included preparing the winch platforms on either side of the channel on the hillock and in the swamp, installation of the winches with adequate holdback arrangement to sustain the winch pull force during shore pull operations.

Pipelay barge, Kuber, was fitted with installation aids, tools and tackles in Singapore, before sailing for Myanmar. One of the finest of the four offshore barges of Punj Lloyd, Kuber is a non self-propelled S-type barge that can lay 4" to 60" dia pipes in sea with water depths up to 150 m, besides maintaining and repairing existing pipelines. Kuber is the most sophisticated of the Group's flotilla of barges for offshore operations. Another challenge was installing, commissioning and using the CRC automatic welding for the first time on a Punj Lloyd owned barge. World renowned Thai welders were hired for this project, with welder qualification at CRC facilities in Malaysia.

Punj Lloyd's installation engineering team devised a feasible methodology for pipe-laying in this difficult terrain, after many brainstorming sessions with CPPE (China Petroleum Pipeline Engineering Corporation), Land and Marine (UK based company hired for engineering of push-pull operation). It was finally decided to use a combination of shore pull for shore approaches where water depth is less than 6 m and conventional



pipelaying (using lay barge Kuber) for the offshore portion.

Timely granting of visa, air lifting to Yangon, travel permits to work in restricted areas and deputing people to construction sites were some of the challenges faced by Punj Lloyd. These problems were further aggravated due to the primitive infrastructure, lack of communication and transportation services available at Myanmar. Due to the close historical, political and religious ties between the two countries, the Indian workforce were well positioned to perform in Myanmar. However, the harsh and remote location of the site

was a challenge and posed difficulties in retaining the workforce for prolonged periods.

Punj Lloyd sites faced no disturbances and resumed operations peacefully after the emergency, which was declared by the Myanmar government due to ethnic clashes in the Rakhine state.

Developing the community

The remote villages of Kabaing and Padan near the construction site faced water scarcity problems. Punj Lloyd dug several ponds in both the villages to solve this problem, the

team also repaired the village roads, culverts and the playing fields. Punj Lloyd also provided construction equipment to the local administration and Pagodas for meeting their needs. The doctors deployed at Punj Lloyd sites treated the local villagers free of cost. Punj Lloyd also supported the local NGOs, Pagodas, church and schools. It supported football and golf tournaments and the ASEAN car rally. ♦



Punj Lloyd works with Vale to bring iron ore closer to customers

P K Chand

Director
Punj Lloyd Oil and Gas (M) Sdn. Bhd

When Vale's Teluk Rubiah Maritime Terminal and iron-ore distribution centre in Majung District, Perak of Malaysia, received its first Valemax - the Berge Everest loaded with 382,500 MT of iron ore, it marked an important milestone for the Brazilian mining giant. Its new \$1.37bn, fully automated, iron ore distribution centre was

operational with a capacity of 30 million tonnes of iron ore a year. It was equally important for Punj Lloyd, Vale's EPC partner, for the onshore electromechanical assembly and erection projects under the Vale Malaysia Minerals Project (VMMP), the iron ore distribution centre and pelletizing facility.

As one of the world's largest producers of iron ore, Vale is present in over thirty countries across the world. The company's footprint is as

The iron ore distribution centre offers customised solutions to its clients in Asia by shortening distances. Initially the facility will have a capacity of 30 MTPA of iron ore, expandable up to 90 MTPA.

indelible as the minerals it mines and with their recent construction of the Valemax ships, its footprint is set to deepen and extend even further.

Vale chose Malaysia to host this distribution centre because of its reliable power, political stability, low seismic activities and strategic location; close proximity to the Straits of Malacca.

Vale iron ore project features a 1.6 km deep water wharf and five stockyards where different types

of iron ore can be blended and customised to the needs of regional steelmakers. The distribution centre can receive iron ore from Brazil in vessels of 400,000 DWT (dry-weight ton) and the raw material will then be blended and shipped out to customers in the Asian Region. The Centre is located about ten days away from other ports in the

region and would increase Vale's competitiveness by reducing the iron ore delivery time to clients in Asia and South East Asia.

The Vale Malaysia Minerals Project

The Vale Malaysia Minerals Project (VMMP) is an iron ore distribution centre and pelletizing facility on the North West coast of Malaysia,



As one of the world's largest producers of iron ore, Vale is present in over thirty countries across the world. The company's footprint is as indelible as the minerals it mines and with their recent construction of the Valemax ships, its footprint is set to deepen and extend even further.

consisting of an import / export jetty, material handling facility, pellet plant, and associated utilities and infrastructure. The iron ore distribution centre offers customised solutions to its clients in Asia by shortening distances. Initially the facility will have a capacity of 30

and storm water system and potable water.

Rainforests of Malaysia had earlier witnessed Punj Lloyd lay one of the longest pipelines of Malaysia for Petronas. Now Vale, one of the largest mining companies in the world contracted Punj Lloyd for

conveyor gantries, pipe racks and transfer towers, ladders, stairs, access platforms, walkways, grating, handrails, cladding, floor and equipment support beams, primary framing beams, columns, bracings, structural holding down and connecting bolts and nuts.



Mtpa of iron ore, expandable up to 90 MTPA.

Working with this global mining company was a moment of great honour for Punj Lloyd.

The contract for the onshore electromechanical assembly and erection was awarded to Punj Lloyd Oil and Gas (M) Sdn. Bhd., a Punj Lloyd subsidiary in 2012. The construction of the onshore stock yard facilities included import/export conveyors, transfer towers, pipe and cable racks, substations, raw water

its iron ore distribution project to enhance its capability to supply iron ore more efficiently to the Asian markets.

Punj Lloyd's Scope of Work

- Complete installation of all equipment and components of the import, export, stockyard and pellet plant stockpile conveyors of capacity 10 MT/hour.
- Belt laying (width 1.8 m) for above conveyors.
- Steel structure erection for
- Fabrication and erection of potable water tanks and rubber lining.
- Erection of shop fabricated tanks, tramp chutes and conveyor head chutes complete with wear resistant liners.
- Piping fabrication and erection work.
- Supply and erection of roofing, sheeting and wall cladding.
- Equipment erection for pumping stations.
- Installation of Rails for Stacker Reclaimer.

As part of its scope of work, Punj Lloyd installed rails of 3.7 km by puddle arc welding, piping work of 70,000 inch dia, a tank of 1200 m³, steel structure erection of 33,533 MT and several rotating equipment. All above work was completed ahead of time, before the arrival of the Stacker (10,500 TPH) and Re-claimer (9,700 TPH). The scope also comprised supply of all labour, supervision, consumable material, all the necessary tools and equipment, and storage of material deemed



Vale iron ore project features a 1.6 km deep water wharf and five stockyards where different types of iron ore can be blended and customised to the needs of regional steelmakers.



As part of its scope of work, Punj Lloyd installed rails of 3.7 km by puddle arc welding, piping work of 70,000 inch dia, a tank of 1200 m³, steel structure erection of 33,533 MT and several rotating equipment.

necessary to complete the entire installation within the scope of this technical requisition.

Challenges

One of the major challenges faced was the erection of gallery structure for Main Import Conveyor. One gallery weighed 74 T and there were 30 galleries of a similar weight. Special lifting beams and spreader bars were designed, and lifting calculations were made for tandem lifting. Lifting and erection of gallery was done safely using a 250 T and a 280 T crawler crane.

As the project was to be implemented on hilly terrain, pipe and cable racks followed the terrain. 3,300 T of steel structure assembly and erection were completed.

A single Transfer Tower in the import system covered an area of 160 x 130m, weighing 4,000 T and was the interface point between onshore and offshore contract. In order to achieve an early completion of the import system, the work was carried out in a phased manner and in two shifts. Separate crew were deployed for assembly of heavy structures on ground and for erection, taking in to consideration all safety aspects in a confined area.

Environment and safety

As leaders in the production of iron ore, Vale is in a position to influence the sustainability of not only its operations but that of its suppliers as well. Punj Lloyd is proud of its partnership with Vale as the Centre can blend ores with different grades from its production systems and reduce GHG emissions for iron ore delivered in Asia. Valemax vessels at Teluk Rubiah will facilitate a 35% reduction in carbon emissions per tonne of ore transported, which would then be delivered to its port destinations in Capesize vessels.

As part of Punj Lloyd's commitment to the environment, a



daily cleaning plan were prepared and adhered to by a dedicated housekeeping crew.

All employees in this project completed statutory medical screening, statutory Construction Industry Development Board (CIDB) training, training for safe work practices such as permit to work preparation and maintenance, working at height, handling of cargo, among others. All equipment deployed in this project was inspected as per Vale requirement and periodical inspections were done.

As a partner in construction of this distribution centre, Punj Lloyd, along with other contractors, facilitated Vale's target of selling the best iron ore from Brazil faster and more competitively. Vale's strategy will enable a long-term, undisrupted and large scale supply of high quality iron ore. The economies of scale will reduce volatility, clearly benefiting its customers. ♦



"PUNJ LLOYD'S TURNAROUND HAS ALREADY BEGUN"

Heading a company that has not seen any revenue growth in the last five years and has ended five of the last six years with losses can be a very daunting task, particularly if it operates in some of the most politically volatile regions of the world. But doing exactly this is Atul Punj, Chairman, Punj Lloyd, who tells *The Dollar Business* his strategy to turnaround the company's fortune

INTERVIEW BY DEB PRASAD

Q In the last 10 years, the share of revenue from abroad in your total revenue has consistently risen, while EBITDA margin has shrunk. How would you explain this phenomenon?

A Yes, the increased share of international revenue is reflective of the slowdown in capex investments and consequent delays in infrastructure and construction projects in India during the last 10 years. EBITDA margin has shrunk because of the increase in the cost of raw materials and labor. As an EPC contractor, we are dependent on the cost of raw materials and labor. In the last 10 years, raw material cost (as a percentage of revenue) has increased by 900 bps and contractor cost has increased by over 500 bps. It is because of this pricing pressure that we have had to keep pace with cost. If we, who are an EPC contractor, depend on the cost of raw materials and labor, we are in a very difficult position. We are in a very difficult position.

Q In the last 10 years, raw material cost (as a percentage of revenue) has increased by 900 bps and contractor cost has increased by over 500 bps. It is because of this pricing pressure that we have had to keep pace with cost. If we, who are an EPC contractor, depend on the cost of raw materials and labor, we are in a very difficult position. We are in a very difficult position.

Q You operate in some of the most politically volatile parts of the world like Libya. Tell us what has been your experience there. Have things deteriorated significantly in the last few years?

A Punj Lloyd has grown from a pipeline contractor in India to a global EPC diversified conglomerate, a fact made possible owing to its spirit of entrepreneurship. Crossing Indian borders, Punj Lloyd has diversified its business and geographical focus, and today operates across 20 countries. While this predisposed it to market or political risks in newer regions, it is indisputable that the same leverage has helped it secure favourable contracts in various parts of the world. We are focusing on monetising non-core assets in order to reduce our debt burden.



WE ARE FOCUSING ON MONETISING NON-CORE ASSETS IN ORDER TO REDUCE OUR DEBT BURDEN.

Q Do you have any plan in place to change this? Do you plan to raise cheaper dollar debt in the near future?

A We are constantly exploring options to bring down both the volume of debt and cost of financing. The cost of new loans from banks is in the range of 10-12% per annum. We are exploring options to raise cheaper dollar debt in the near future. We are constantly exploring options to bring down both the volume of debt and cost of financing. The cost of new loans from banks is in the range of 10-12% per annum. We are exploring options to raise cheaper dollar debt in the near future.

"WE ARE WORKING FOR VARIOUS INTERNATIONAL AEROSPACE PROJECTS"

ATUL PUNJ, Chairman - Punj Lloyd Group, talks about the company's comprehensive aerospace and aero structure capabilities in the Indian private sector

Q Punj Lloyd has got approval from DIPP to manufacture and test weapons and rocket launchers. Tell us how significant this is for the company's overall business in the defence and aerospace sector?

A We have set up a modern state-of-the-art plant at Malnad, specifically designed to cater to the requirements of the Indian Army, air force and Navy. This plant will be used for the manufacture and testing of various weapons and rocket launchers. This is a significant step for the company's overall business in the defence and aerospace sector.

Q What is the size and scope of your MRO activities? Do you cover the entire gamut of MRO activities?

A The MRO work is being conducted by Airworks, an aircraft maintenance company of Punj Lloyd. Airworks has developed capabilities and infrastructure for undertaking MRO activity in the aviation sector. We are working on several projects including Upper and Lower Tank Panel for the Sukhoi Su-30, main Gear Box Assembly for ALH at HAL Bangalore and Comber-Ton Chamber Mig 27 at HAL Koriapet.

Q Please provide an overview of your Group with GECC that is now nearly four years old. How has this engagement helped you?

A This Group, Aerospace Engineering India, has given us an insight into aerospace engineering, in particular for stress analysis and systems. We have developed the capability for creation of digital mock ups and carried out finite element analysis for various components, like the cockpit and the engine pylons for aerospace OEMs. This expertise is now being projected to the Indian Air Force (IAF) for development work of ICA Mark II and the Advanced Combat Helicopter (ACH) project.

Q The government has taken the right steps to promote indigenous aerospace manufacturing in the defence sector. All these steps create a positive and stable framework for investment in this sector and enable collaboration with international defence companies. The liberalised license scheme for the MRO sector is a boost to the MRO sector, which is key to the growth of the aerospace industry in India. The opportunity for us in India is to be a part of this growth. We are working on several projects including Upper and Lower Tank Panel for the Sukhoi Su-30, main Gear Box Assembly for ALH at HAL Bangalore and Comber-Ton Chamber Mig 27 at HAL Koriapet.

Q Are there any overseas projects that Punj Lloyd is executing in the aerospace sector?

A Yes, we are working through GECC for various international projects. Details of which are available on the company website.

Q What are your capabilities in the manufacture of aero components and avionics? Give examples of some projects you have worked on or are working on at present?

A Punj Lloyd has the most comprehensive aerospace and aero structure capabilities in the Indian private sector. The company manufactures parts and accessories for aircraft, precision manufacturing of aero structures and dynamic components for aircraft, fabrication and manufacturing of aero structures, air frames and accessories. The company's plant at Malnad provides a complete turnkey solution for the manufacture and testing of various weapons and rocket launchers. This is a significant step for the company's overall business in the defence and aerospace sector.

"India Should Give Tax Concessions to Companies Which Set-Up Units in the Country"

President, manufacturing business, Punj Lloyd Group, Ashok Wadhawan

Q Punj Lloyd has a state-of-the-art facility in Gwalior. Tell us something about it.

A Punj Lloyd established a greenfield manufacturing facility on 65 acres of land at Malnad, near Gwalior. The plant is designed to cater to the requirements of land systems for the Indian Army, aero structures and components for the Indian Air Force (IAF) and precision machined systems for the Indian Navy. It has a number of state-of-the-art, high precision large bed size machines that can do machining on both ferrous and non-ferrous material. The Group has a highly qualified team, dedicated and committed to establish the aerospace manufacturing business in India.



Q The BMS and FCS programs also are not going through. What do you think are the reasons for this? Do you expect these programs to go anytime soon?

A The new make policy is being implemented by the MoD and there are changes being proposed. Both BMS and FCS are a two-phased program. The first phase is the design and the second phase is the production. We are working on several projects including Upper and Lower Tank Panel for the Sukhoi Su-30, main Gear Box Assembly for ALH at HAL Bangalore and Comber-Ton Chamber Mig 27 at HAL Koriapet.

Q Two years ago, you had received AS 9100 certification. Post the certification, what aero structures have you manufactured, both for domestic and international customers?

A The AS 9100 C certification has helped us to align our processes and procedures to undertake aerospace related product manufacturing. We have already manufactured the Lower and Upper Tank Panel for Su-30 Aircraft for HAL.

Q Tell us about your plans in the MTA programme. Has HAL delegated work for Punj Lloyd already?

A Punj Lloyd has created capability and its modern aerospace manufacturing certified plant at Gwalior can undertake precision manufacturing of large components. The MTA programme is still at a nascent stage and Punj Lloyd, by virtue of its capability, remains a preferred partner of HAL.

Q What opportunities are you currently looking for in Aero replacement programmes? Do you have any prior partnerships with Tata or Airbus?

A The Aero programme has been shelved for the time being and we are monitoring it.

Punj Lloyd's power division to focus on nuclear, renewable projects

Orders from thermal sector expected only after a year

Q How have you managed to turn around the power division in the last few years?

A We are already working on two nuclear projects in Gujarat and Rajasthan. If we get the go-ahead for the Haryana project, we will be able to provide the full capacity of the plant. We are already working on two nuclear projects in Gujarat and Rajasthan. If we get the go-ahead for the Haryana project, we will be able to provide the full capacity of the plant.



Punj Lloyd wins major order in Malaysia



Q Realistically speaking, when do you think Punj Lloyd will be profitable?

A Punj Lloyd is a diversified conglomerate. It works globally in various sectors. A strong foundation has been laid over several years of various projects, high standards of quality, and most importantly, people and equipment. The total order backlog of ₹ 10,000 crore in FY2013 has surpassed the ₹ 7,000 crore of the previous year. The company is exploring options to bring down both the volume of debt and cost of financing. The cost of new loans from banks is in the range of 10-12% per annum. We are exploring options to raise cheaper dollar debt in the near future.

Project Name	Location	Client
Design and construction of 100 MW power plant	Malaysia	Malaysia Power Corp.
Design and construction of 100 MW power plant	Malaysia	Malaysia Power Corp.
Design and construction of 100 MW power plant	Malaysia	Malaysia Power Corp.
Design and construction of 100 MW power plant	Malaysia	Malaysia Power Corp.

"The funding issue for road projects also needs to be looked into immediately"

Issues like land acquisition, statutory clearances, red-tapism, power struggle between different agencies as well as between the private sector and government, among others made PPP an unviable business model says SHANTANU KARKUN, President & CEO, Buildings and Infrastructure, Punj Lloyd in an interaction with EPC World



Q A recent report by CRISIL states that states of road projects awarded in the last fiscal show an impressive pick-up in execution amid a positive government and lender approach for implementing agencies. What is the role of highways in general and Punj Lloyd's role in particular?

A The overall sentiment in the infrastructure sector is positive. The government has taken several steps to improve the execution of road projects. We are working on several projects in the highways sector. We are working on several projects in the highways sector.

EPC players need to establish strategic partnerships

Q Being an international EPC company, we feel our strength lies in procuring highly competitive quality products from global vendors.

A Punj Lloyd provides integrated design, engineering, procurement, construction and project management services in the energy and infrastructure sectors. We are working on several projects in the highways sector. We are working on several projects in the highways sector.

Q In addition, considering the existing infrastructure available in the country, logistic facility is also considered as a key challenge though there has been a significant improvement over the years. Most of the project sites are in remote locations with poor infrastructure and ensuring proper delivery of cargo is a challenge.

A We are working on several projects in the highways sector. We are working on several projects in the highways sector.

Q The Central Government has plans to increase state highways to national highways and to award contracts before the end of this year. This is a good move to improve connectivity of the region. Do you think it would be a good move to increase the number of state highways to national highways?

A We are working on several projects in the highways sector. We are working on several projects in the highways sector.

Q However, most of Punj Lloyd's clients have not allowed it to optically utilize its global sourcing expertise. We try to get vendors offering competitive quality products, approved by the client. Being able to bring value to the client is key. However, this is a challenge as it needs to be done during the project execution.

A We are working on several projects in the highways sector. We are working on several projects in the highways sector.



Recently Completed Projects

West Bengal, India

In November 2014, Haldia Energy Limited, a subsidiary of CESC, inaugurated the Haldia Thermal Plant, where Punj Lloyd was one of the major EPC contractors.

Providing a major impetus to power generation in West Bengal, the scope of work for this 2 x 300 MW Haldia Thermal Power project was the complete design and construction of civil, supply, erection, testing and commissioning of mechanical and electrical packages of Balance of Plant (BOP), and erection, testing and commissioning of Boiler Turbine Generator (BTG) Island.

The plant is ready for operation as per schedule.

CESC congratulated Chairman, Atul Punj and MD & Group CEO, J P Chalasani on this achievement



2 x 300 MW Haldia Thermal Power Plant, India



and appreciated the commitment, energy and enthusiasm displayed by the entire Punj Lloyd Power team working on this project.

The 2 x 300 MW Power Plant Unit # 2 has achieved Commercial Operation Declaration by HEL after continuous operation of the unit in full rated load to the satisfaction of the authority.

Singapore

Sembawang drives Lower Seletar Water Works to Completion.

Sembawang is nearing completion of the Lower Seletar Water Works project for Public Utilities Board in north-eastern Singapore. This 60 Million Gallon Per Day raw water treatment plant is part of the Singapore government's strategic initiative to become self



Lower Seletar Water Work, Singapore



sufficient in the production of drinking water.

Sembawang continues to be an integral part of the development of Singapore's infrastructure and the plant will be opened later this year in time to mark the 50th Anniversary of Singapore's independence.

Chandigarh, India

Punj Lloyd Delta Renewables has recently completed its third SPV Grid Interactive multi rooftop single point integration power plant for Chandigarh Renewable Energy Science and Technology Promotional Society (CREST) at the Indian Reserve Battalion (IRB) Complex in Chandigarh, taking Punj Lloyd's cumulative installed solar energy capacity to over 1.2 MWp in Chandigarh. Chandigarh was identified as the Model Solar City by the Ministry of New and Renewable Energy (MNRE) in its Solar City Programme. CREST is the nodal agency for executing solar projects in Chandigarh.

Punj Lloyd Delta Renewables had earlier completed a 495 kWp and a

435 kWp SPV Grid Interactive multi-rooftop single point integration power plant in the Government Colleges of Girls and Boys respectively.

The average energy generation per month of the SPV Power Plant at the Indian Reserve Battalion (IRB) Complex is 25 MWH, reducing 60T CO₂ emission in the last five months.

Bihar, India

PL Surya Urja Ltd, a wholly owned subsidiary of Punj Lloyd Infrastructure Ltd (PLIL), has commissioned a 21 MW solar power project in District

Mansa of Punjab, one month ahead of schedule. The entire equity of this project was funded through internal accruals of PLIL.

Khagaria - Purnea annuity road project of NHAI in Bihar, the earlier project of PLIL, was completed in November 2013, five months ahead of schedule. The achievement was made possible with the dedicated efforts of PLIL and B&I Teams.

All three operating projects in Punj Lloyd Infrastructure's portfolio were commissioned ahead of schedule.



Recently Won Projects



Kuwait

Punj Lloyd received a Letter of Award for expansion and revamping of Ahmadi Depot, Kuwait from Kuwait National Petroleum Company (KNPC). The scope of work for this contract valued at Rs 1,418 crore (USD 236.09 million), includes the Design, Detailed Engineering, Procurement, Construction and Commissioning of 11 new Floating Roof Product Tanks with a capacity of approx 228,000 cubic meters.

With this new order in Kuwait, Punj Lloyd will play an important role in enhancing the storage and loading capacity of fuel at the Ahmadi Depot, which is one of the two depots owned and operated by Kuwait National Petroleum Company.

Malaysia

Punj Lloyd won the mega Rs 3,515 crore (USD581 million) RAPID Tank Farm order from PRPC Refinery and Cracker Sdn. Bhd.; a subsidiary under the Petroliam Nasional Berhad

(PETRONAS) group, Malaysia's national energy company.

The Tank Farm is part of PETRONAS' Refinery and Petrochemical Integrated Development (RAPID) project in Pengerang, Johor, Malaysia. Developed within a 6,242-acre site, RAPID is part of the colossal PETRONAS Pengerang Integrated Complex (PIC) development, along with RAPID's associated facilities including the Pengerang Co-generation Plant (PCP), Re-gasification Terminal 2 (RGT2), Air Separation Unit (ASU), Raw Water Supply Project (PAMER), Crude and Product Tanks (SPV2) and central and shared Utilities and Facilities (UF).

Punj Lloyd's scope of work in the RAPID Tank Farm project includes Project Management, Design, Engineering, Interface with other Contractors and third parties, Procurement, Construction, Inspection and Testing, Pre-Commissioning and Commissioning. The RAPID Tank Farm will be a

critical project requiring expertise in the construction of different types of tanks including storage tanks, LPG tanks, mounded bullets, Light Cracked Naphtha storage, transfer pumps and additive packages.

India

Punj Lloyd secured an EPC highway contract worth Rs 666 crore from the Ministry of Road Transport & Highways (MoRT&H) for 90.586 km of the Asian Highway (AH) Network, a cooperative project for improving transport facilities throughout 32 nations and providing road links to Europe.

The scope of work comprises rehabilitation and upgrading to 2/4-Lane of Bhutan Border at Pasakha to Bangladesh Border at Changrabandha comprising Jaigaon, Hasimara, Dhupguri section and Mainaguri-Changrabandha section. This contract includes the proposed Pasakha access road of length 6.558 km, bypass to Jaigaon and Hasimara in the state of West Bengal.

The Asian Highway Network is a part of the Asian Land Transport Infrastructure Development (ALTID) project being supported by United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

Punj Lloyd has secured a Rs 541.84 crores road project from National Highways Authority of India in Bihar. The scope of work for the project includes Four laning from 360.915 km to 402.000 km of the Gorakhpur-Gopalganj section of NH-28 in Bihar.

Part of the highway connecting Lucknow and Muzaffarpur, the stretch starts from Gorakhpur in Uttar Pradesh and will pass through the Kuchaikot, Sasamusa, Gopalganj, Koini and Dewapur areas of Bihar. The highway aims at reducing travel time between Gorakhpur-Gopalganj and Gorakhpur-Patna by reducing congestion and improving geometric deficiencies at various intersections. It will also improve the connectivity of Valmiki Wildlife sanctuary (situated at the Nepal border) with Patna hence promoting tourism. The stretch runs through the flood prone zone in north-western part of Bihar with river Gandak running parallel.

The key feature is the design of the highway at 1 meter above the High Flood Level (HFL), which will enable commuters to travel unaffected during floods. ♦





**Punj Lloyd
HSE Recognition
2014-15**

REGISTERED OFFICE

Punj Lloyd Ltd
Punj Lloyd House
17-18 Nehru Place,
New Delhi 110 019, India
T +91 11 2646 6105
F +91 11 2642 7812
info@punjlloyd.com

CORPORATE I

78 Institutional Area, Sector 32
Gurgaon 122 001, India
T +91 124 262 0123
F +91 124 262 0111

CORPORATE II

95 Institutional Area, Sector 32
Gurgaon 122 001, India
T +91 124 262 0769
F +91 124 262 0777

REPRESENTATIVE OFFICES

**Sembawang Engineers
and Constructors Pte Ltd**
5 Maxwell Road, #16-00
Tower Block, MND Complex
Singapore 069110
T +65 6305 8788
F +65 6305 8568
bd@sembawangenc.com

Punj Lloyd Ltd
21-22, Grosvenor Street
London W1K 4QJ
United Kingdom
T +44 207 495 4143
F +44 207 495 7937
farah@punjlloyd.com

PL Engineering Ltd
5-7 Udyog Vihar, Phase IV
Gurgaon 122 016, India
T +91 124 486 0000
F +91 124 486 0001
info@ple.co.in

SOUTH ASIA

Punj Lloyd Ltd
1412 - 1414, 14th floor,
Real Tech Park, Plot No. 39/2,
Sector - 30A, Near Inorbit Mall,
Vashi, Navi Mumbai - 400 705
T +91 22 6748 7503
F +91 22 6748 7555
info@punjlloyd.com

SOUTH EAST ASIA

Punj Lloyd Pte Ltd
5 Maxwell Road
#16-00, Tower Block, MND Complex
Singapore 069110
T +65 6933 4999
F +65 6565 9880
asiapacific@punjlloyd.com

PT. Punj Lloyd Indonesia
Wisma GKBI, 17th Floor, Suite 1708
Jl. Jend. Sudirman No. 28
Jakarta 10210, Indonesia
T +62 21 5785 1944
F +62 21 5785 1942
info@ptpli.com

PT Sempec Indonesia
Wisma GKBI, 12th Floor, Suite 1209
Jl. Jend. Sudirman No. 28
Jakarta 10210, Indonesia
T +62 21 574 1128
F +62 21 574 1130
sempec@sempecindonesia.co.id

**Punj Lloyd Oil & Gas (Malaysia)
Sdn Bhd**
Suite 1006, 10th Floor, Menara
Amcorp, 18 Jln. Persiaran Barat
46200 Petaling Jaya
Selangor Darul Ehsan
Malaysia
T +60 3 7955 5293
F +60 3 7955 5290
asiapacific@punjlloyd.com

Punj Lloyd Group JV
Sun Towers Building, Tower B
Unit B 2904, 29th Floor
123 Vibhavadi, Rangsit Road
Chatuchak, Bangkok 10900
Thailand
T +66 2 617 6755
F +66 2 617 6756
asiapacific@punjlloyd.com

Punj Lloyd Ltd
Center Point Towers, 7th Floor
65 Corner of Sule Pagoda Road and
Merchant St., Kyauktada Township
Yangon, Myanmar
T +95 1 377 826
asiapacific@punjlloyd.com

CASPIAN

Punj Lloyd Kazakhstan LLP
Plot No. 7 "A"
Atyrau Dossor Highway
DSK Region, Atyrau 060000
Republic of Kazakhstan
T +7 7122 395 021/42
F +7 7122 395 038
plk@punjlloyd.com

Punj Lloyd Kazakhstan LLP
Room No. 4-A-1, 4th Floor
Turkmenbashi Shasty 54
Ashgabat City, Turkmenistan
T +971 5081 84492
plk@punjlloyd.com

MIDDLE EAST

Punj Lloyd Ltd
PO Box 28907, 21st Floor, 2101-2104
Al Wahda Commercial Tower
Near Al Wahda Mall
Defense Road, Abu Dhabi, UAE
T +9712 697 2222/626 1604
F +9712 626 7789
plme@punjlloyd.com

Punj Lloyd Ltd
PO Box No. 502022
Office No. 405-406, 22nd Floor
Ibn Battuta Gate Offices
Dubai, UAE
T +971 4 457 1200
F +971 4 446 9731
plme@punjlloyd.com

Punj Lloyd Ltd
18th Floor, Al-Fardan Towers
West Bay, PO Box No. 31721
Doha, State of Qatar
T +974 4407 4555
F +974 4407 4500
plme@punjlloyd.com

Punj Lloyd Ltd
PO Box No. 704, Postal Code 133
Office No. 21, 2nd Floor, Zakia Plaza
Bousher Area, Al Khuwair
Sultanate of Oman
T +968 2461 9336
F +968 2461 9319
plme@punjlloyd.com

**Dayim Punj Lloyd Construction
Contracting Co Ltd**
Tanami Tower, 8th Floor
Prince Turki Street (Near Corniche)
PO Box No. 31909, Al-Khobar 31952
Kingdom of Saudi Arabia
T +966 3 896 9241
F +966 3 896 9628
mkt@punjlloyd.com

Punj Lloyd Ltd
PO Box No. 65017, Office No. 61
Building 2080, Road 2825 Block 428
Seef Tower Building, Al Seef
Bab Al Bahrain
Kingdom of Bahrain
T +973 1756 4500
F +973 1767 8500
plme@punjlloyd.com

Punj Lloyd Ltd
No. 41 Building No. 14, Block No. 10
Macca Street, Fahaheel
PO Box No. 46245, Kuwait 64013
T +965 2392 8095
F +965 2392 8094
plme@punjlloyd.com

AFRICA

Punj Lloyd Ltd
PO Box No. 3119
Goth Alshaal Alwahda Area
Tripoli, Libya
T / F + 218 21 5567 0123
plme@punjlloyd.com

Punj Lloyd Kenya Ltd
Plot No. 1870/M/254-256
Kalamu House, Westlands, Nairobi
PO Box No. 47323-00100
Nairobi, Kenya
T +254 7887 11363
plme@punjlloyd.com



**Punj Lloyd
GROUP**

Energy • Infrastructure • Defence

www.punjlloydgroup.com

Punj Lloyd | Sembawang | PL Engineering