Al Jaber Heavy Lift

Safely onwards and upwards

HIGHLIGHTS

BOLD VENTURES

WELCOME

Welcome to the latest edition of Highlights, featuring a curated selection of AJHL's success stories from around the world. As you flip through these pages, you'll find captivating stories that celebrate the diversity of AJHL's project portfolio and highlight the company's competitive advantages.

Following a strong recovery from the pandemic, we're tackling geopolitical risks that continue to test our business resilience in environments with constant disruption. As an international player in the heavy lifting and transportation industry, AJHL is focused on enhancing its engineering and logistical capabilities to serve a wide range of markets.

AJHL is at the forefront of advancing infrastructure development and energy transition goals of companies and governments worldwide. We are consistently delivering projects to the highest standards in some of the world's fastest growing economies; they include expanding natural gas production in Qatar, enhancing onshore and offshore oil production facilities in Saudi Arabia and modernising energy infrastructure in India.

Our geographic expansion is led by our strong, decades-long client relationships, and we're fortunate to remain their partner of choice for groundbreaking projects in both developed and emerging markets.

We take pride in our ability to serve the needs of the world's biggest EPC contractors to solve complex transport and lifting problems in the infrastructure, construction and energy industries. We are now more agile than ever before in providing engineered heavy lifting and transport solutions and mobilising equipment and manpower with short notice.

We are grateful to our customers and partners for their valued partnership and trust in our capabilities. As they challenge us every day to do better, we are inspired by the leadership of the AJHL management and the dedication of our staff to keep raising the bar for excellence in our industry.

Alexander Mullins
Executive Director - Al Jaber Heavy Lift

Every year, AJHL has the privilege to work on high-profile projects and serve world-leading energy and infrastructure companies in both the public and private sectors. New, challenging opportunities help build expertise and raise the standards of project delivery, which in turn strengthens the brand image of AJHL among global customers.

A common thread among all our projects worldwide is the dedication and unwavering spirit of our talented workforce in the planning and execution of complex tasks with the highest safety standards. There are numerous instances when clients have turned to our expertise to get the job done, whether it's navigating logistical hurdles, complicated shipping schedules or regulatory approvals.

As experts in multimodal heavy haulage, we identify and leverage strategic geographical locations and logistics centres such as Indonesia and Singapore to support oil and gas and renewable energy projects worldwide. This enables us to maintain an exceptional level of supply chain efficiency in mobilising machinery and manpower across the Middle East, South and Southeast Asia.

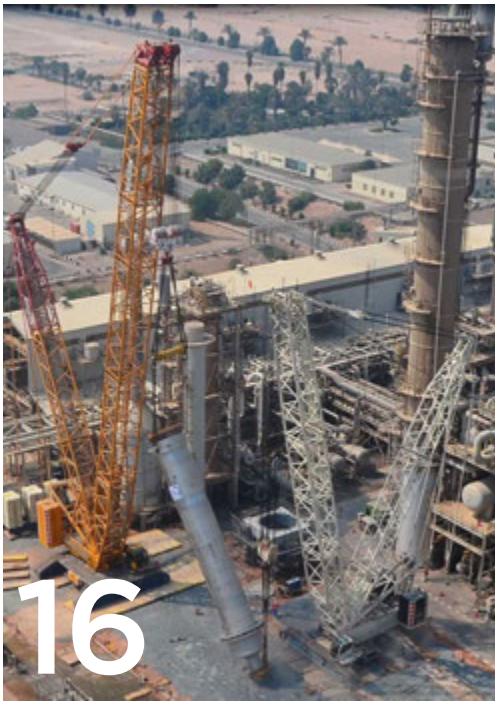
Our commitment to excellence and safety is embedded in our company culture, which stands out every time we sign up to transport and lift oversized cargo, irrespective of the complexity and size of projects.

We are proud of achieving 'Zero LTI' milestones consistently across our projects, some of which include expansion of one of the world's largest LNG projects in Qatar, expansion of one of the largest oil fields in Saudi Arabia, and construction of one of the largest greenfield refinery and petrochemical complexes in India.

Our people are integral to the success of our projects, and we are more committed than ever to identifying and developing the next generation of talent to drive our business.

We thank all our stakeholders for their continued support during the past year. Together, we aspire to shape the future of our industry through more innovation and collaboration.

Syed Sabahuddin
Managing Director, Corporate Office - Al Jaber Heavy Lift



FRONT COVER IMAGE: Loadout of a 4,401 tonne offshore support vessel in the UAE. *See page 6-7 for the full story.*

IN THIS ISSUE

ELEVATING SPORTING STANDARDS

AJHL tackles city traffic and site congestion to mobilise crawler cranes for construction of an integrated sports centre in Singapore

The Singapore government is building integrated sports and recreation centres in various districts to provide residents access to a variety of affordable sporting facilities within a 10 minute walk from their homes. One such sports facility under construction will have a 5,000 seater stadium, a swimming complex, an indoor sports hall with 20 badminton courts, a team sport hall, a gym, fitness studios, sheltered tennis and football courts, a water sport centre and an archery field.

The main contractor awarded AJHL the subcontract for heavy lifting works at the construction site of the stadium. The scope of work included the supply of three crawler cranes utilising various configurations including 'superlift' configuration to lift several large trusses and other components for the construction of the stadium.

The two main challenges for AJHL were to tackle the accessibility and space constraints at the construction site. The crawler cranes had to be transported via inner-city roads which often faced traffic congestion leading up to the construction site. Subsequently, they would have to be assembled and rigged within the limited space available on the busy job site.

AJHL worked together with the main contractor to identify risks and the optimal crane configurations required to meet the safety standards and deadlines for the project. All cranes were tested extensively at the AJHL yard prior to their delivery to the job site.

The cranes were transported to the job site by using 100 trailers, and the site access was managed in coordination with the main contractor. The luffing jib configurations of the crawler cranes were modified with progress in the construction of the stadium.

AJHL's expertise in engineering heavy lifts was integral in guiding the main contractor on the selection of the crawler cranes, lifting configurations, and safety protocols and planning all heavy lift operations in advance to complete the project on schedule.


JOPETWIL
UAE

SEABORNE SYNERGY

Meticulous planning by AJHL eases the transportation and loadout of a 4,401 tonne offshore support vessel in the UAE

A UAE-based energy EPC service provider which manufactured a 4,401 tonne liftboat for their contracting subsidiary sought AJHL's expertise for the transportation and loadout of the liftboat to support offshore construction and exploration activities.

AJHL was contracted to transport the 4,401 tonne liftboat measuring 57 m x 44 m across a distance of 200m from the fabrication yard to the quay and then loadout the liftboat onto a barge, within a timeframe of seven days.

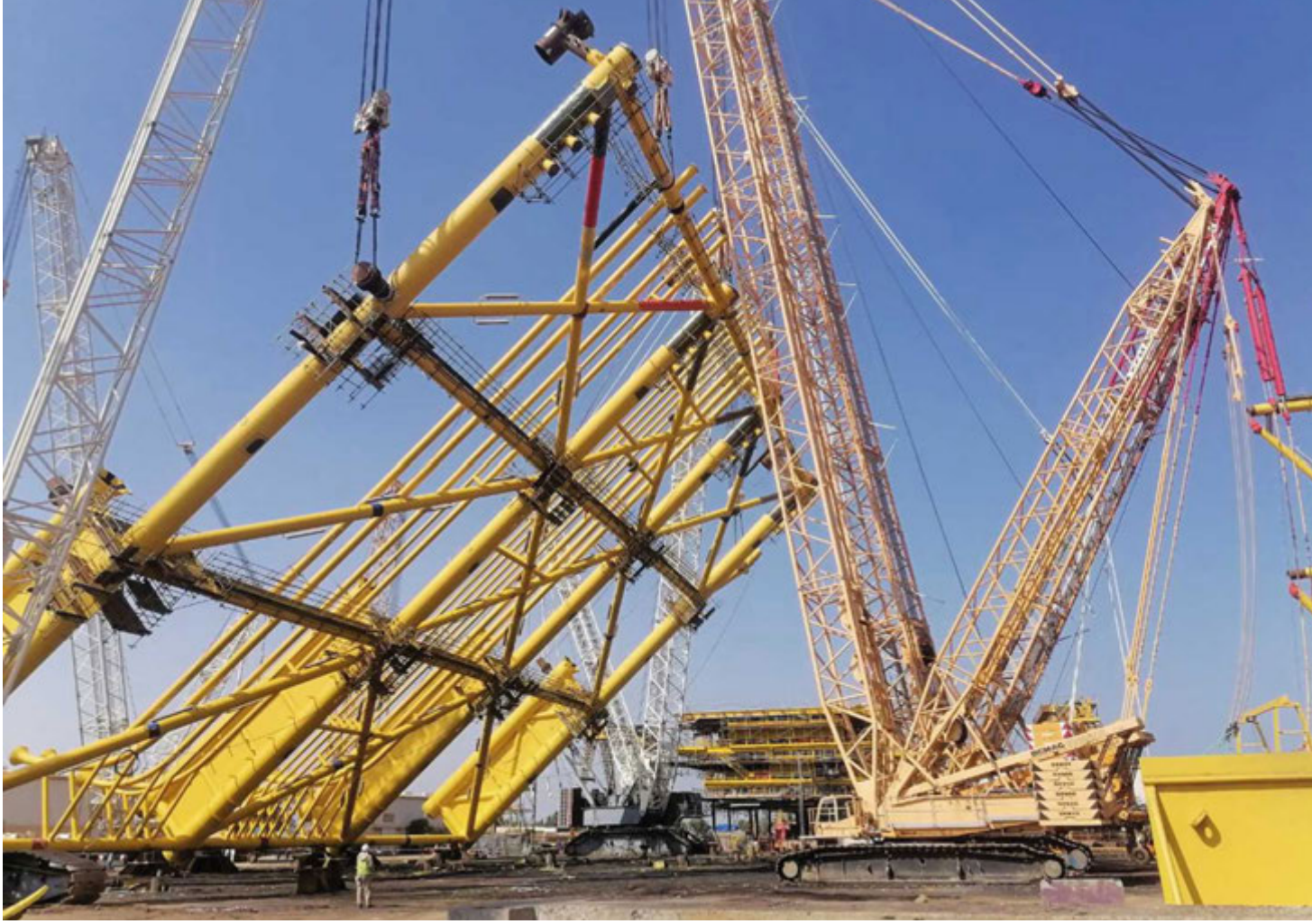
The self-elevating, self-propelled vessel manufactured in the UAE and classed under the American Bureau of Shipping was equipped with cutting-edge technology to support various offshore activities and accommodation for up to 160 people.

AJHL was easily able to meet the challenge of sourcing the large number of SPMTs (180 axle lines and 6 power packs) from within its external branch network.

With limited load bearing space beneath the hull of the liftboat, AJHL devised a comprehensive load-in plan to accommodate the hull's centre of gravity while supporting the entire 4,401 tonne load. By positioning the SPMTs and connecting its hydraulic and electronic systems, the liftboat was raised from its fabrication supports and then transported to the quay and loaded onto a barge for delivery to its offshore destination.

BUILDING FROM THE GROUND UP

Facilitating a more efficient construction process, AJHL synchronises cranes to lift and position steel panels in multiple orientations for assembling offshore jackets in Oman



One of Saudi Arabia's largest oil fields is undergoing expansion to boost the production of crude oil and processing of natural gas through an integrated offshore and onshore development project. Within the scope of this project involving the construction of an offshore gas-oil separation plant including platform decks, jackets, and interconnecting bridges, AJHL was subcontracted by a global EPC company to carry out lifting works for construction of a jacket at its fabrication yard in Oman.

During the construction of the jacket by the EPC company, AJHL was tasked with lifting heavy panels of the jacket towering up to 66 m and weighing between 1,264 and 1,690 tonnes. When constructed, the jacket would be taller than an eight-story building and wider than a football pitch.

A traditional stick-built construction method for the jacket would have been much more time consuming, labour intensive, and risky due to the demands of working at height. To overcome these challenges, the EPC company opted to construct the panels entirely at ground level and use cranes to erect and weld the panels. This method would ensure operational safety at the construction site and increase the speed of construction significantly.

After conducting thorough risk assessments, load calculations and analysing the sequence of the lifts, six main crawler cranes with capacities ranging from 400 tonnes to 1,600 tonnes and tailing cranes were deployed in various configurations for the lifting operations.

Initially, the panels were lifted to an angle of 30 degrees; then, the cranes were positioned according to the size of the panels to erect them in vertical positions. Finally, the erected panels were welded together to create the structure of the jacket.

The major challenge during the lifting of the panels was synchronising the movement of cranes to position and stabilise the panels at different angles. AJHL reduced the margin of error by calculating the weights of the panels and the stresses exerted on them at different angles before executing every lifting operation.

The heaviest panel weighing 1,690 tonnes was lifted by a crawler crane at a working radius of 13m while maintaining a minimum elevation of 6m. The operation was executed by rigging the crawler crane in 'Superlift' configuration and using a suspended ballast to position the load at a radius of 13m.

Early involvement in the project by AJHL and maintaining open communication with the client contributed significantly to the streamlining of all the processes and execution of all tasks safely and efficiently.

GOING THE DISTANCE

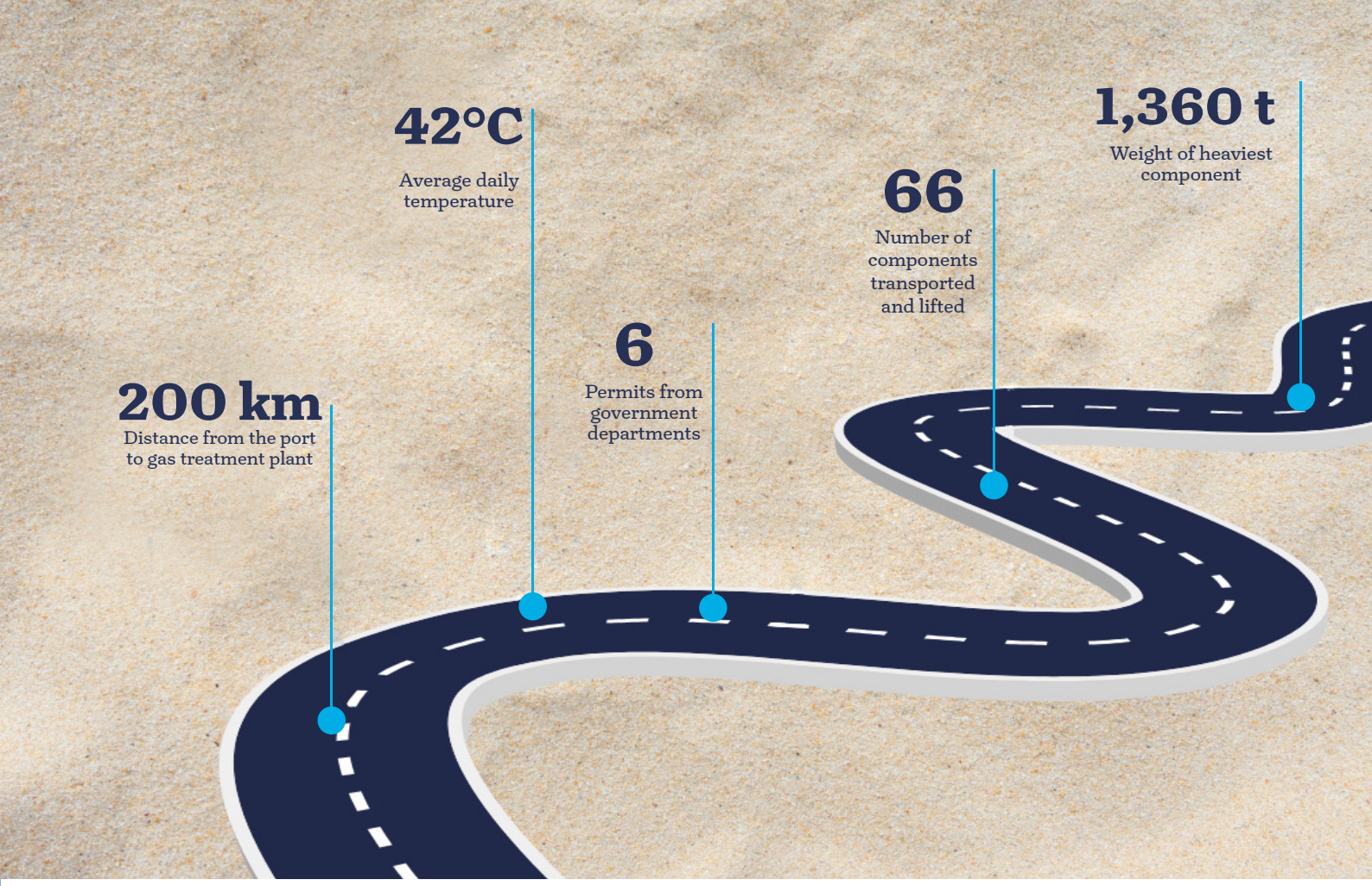
AJHL traverses the eastern coast of Saudi Arabia, working safely in high-temperature conditions to transport and lift over 60 components for a gas treatment plant in Saudi Arabia

One of Saudi Arabia's largest oil fields, located off the eastern coast, is undergoing expansion to boost the production of crude oil and processing of natural gas through an integrated offshore and onshore development project.

Within the scope of this project involving the construction of gas treatment and sulphur recovery facilities, AJHL was subcontracted by a global energy EPC contractor for the transportation of 66 gas treatment plant components from an industrial port to the construction site of the plant, covering 200 km along the eastern coast of Saudi Arabia, and then lifting the components for installation.

The transportation of the components presented numerous challenges, among which were the vast distance to be covered, lengthy duration, government approvals and coordination, challenging weather conditions, and management of the crew.

The transportation required permits from six government departments. All road conditions including traffic and construction were monitored continuously to ensure smooth access for the transport equipment. The average daily temperature along the route was 42°C, which necessitated measures to prevent overheating of equipment and protect workers



from heat stress. The lengthy schedule required the crew of operators, maintenance, and service technicians to work in multiple shifts to ensure uptime of the equipment, prepare parking areas for overnight stops and handle any emergencies.

SMPTs were utilised for transportation of the components, and a tailing frame and crawler cranes were employed for the lifting jobs.

The heaviest components to be transported included three amine absorber units weighing 1,360 tonnes (transport weight of 1,420 tonnes). Space constraints at the construction site for lifting of the amine absorber units were overcome by using AJHL's tailing frame aided by the company's 3200 tonne crawler crane. This combination had a positive effect of the project schedule which was accelerated by the partial dismantling of the 3200t crane while shifting the tailing frame on its dedicated SPMT. Introducing this non-conventional lifting method required a detailed analysis which was carried by AJHL's engineering department using the most advanced computer-aided technologies.

AJHL collaborated with the client from the bidding phase of the project to plan the optimal allocation of resources and execute the transport and lifting operations safely and efficiently. All risks were evaluated ahead of the execution of the project and classified into three main categories, ranging from risks that can be identified and eliminated to those that cannot be identified prior to the start of the job. To tackle the biggest

risks, or Category 3 risks, AJHL relied on the strong, embedded company SHEQ culture of monitoring and analysing every situation thoroughly while maintaining constant communication with all project stakeholders.

FOUNDATIONAL EXCELLENCE

AJHL executes the transportation and loadout of several 3,000 tonne offshore jackets in the UAE

A major oil field in Saudi Arabia is undergoing an expansion to boost the production of crude oil and processing of natural gas through an integrated offshore and onshore development project.

Within the scope of this project involving offshore gas facilities and pipelines, AJHL was subcontracted by a global EPC contractor for the transportation and loadout of offshore jackets, each weighing over 3,000 tonnes and measuring 40m x 40m x 50m, from their fabrication yard in the UAE to the adjacent quay and then the loadout of the jackets onto a barge for delivery to Saudi Arabia.

Initially, detailed route, transport, and loadout plans were presented by AJHL, considering all possible risks and emergency measures. Subsequently, SPMTs with 144 axle lines, 22 ballast pumps, roll-on/roll-off ramps, mooring winches and trucks were utilised for the transportation and loadout operations.

The project was executed by two teams of AJHL personnel, each dedicated to transportation and marine works and headed by a project manager and project engineer. Early involvement in the project by AJHL and maintaining open communication with the client contributed to the streamlining of all the processes and execution of all tasks safely and efficiently.

DELICATE HANDLING OF LARGE, FRAGILE COMPONENTS

AJHL manoeuvres 123 tonne multizone loop reactors with extreme care for construction of a polypropylene plant in Saudi Arabia

A leading operator of integrated petrochemical plants in the Eastern Province of Saudi Arabia is executing its propane dehydrogenation process to nearly double its propylene and polypropylene production capacities by the end of 2024. The capacity expansion project is also aimed at the production of various specialised polypropylene product grades which will provide a competative edge for the company to penetrate value-added segments.

Within the scope of this project, AJHL was awarded a subcontract by an international energy EPC contactor and a leading construction contractor in Saudi Arabia for the transportation and lifting of 123 tonne multizone circulating loop reactors to the construction site of a polypropylene plant at an industrial city in the Eastern Province.

AJHL has always been a reliable partner for both the main contractor and subcontractor, having previously worked together in delivering various similar projects on time and budget in Saudi Arabia and across the Middle East on several occasions.

The main challenge was the handling of the loop reactors, which are extremely fragile components in the production of polypropylene especially during the tailing operation for the lifts.

Initially, AJHL coordinated with client representatives to conduct a thorough analysis of all possible risks and planned for contingencies. SPMTs with 32 axle lines were deployed for transportation of the loop reactors. Once they were delivered to the job site, the lifting and vertical installation of the loop reactors were carried out by using two crawler cranes operated as a main crane and tailing crane.

A STRATEGIC ADVANTAGE IN THE MALACCA STRAIT

AJHL leverages the geographical locations of Karimun and Batam Islands in Indonesia to support oil and gas and renewable energy projects worldwide

Over the past decades, the idyllic Karimun and Batam islands in Indonesia have evolved from fishing villages to international tourist hotspots with free trade zones serving as cost-effective manufacturing and logistics centres for the global energy industry.

The strategic locations of the islands in the Malacca Strait, one of the world's most vital and busiest shipping routes connecting the Pacific Ocean and Indian Ocean, and their proximity to Singapore offers a unique trans-shipment hub for global energy EPC companies, supported by world-class infrastructure, services, and incentives to fabricate, assemble, and ship out large components and equipment for oil and gas and renewable energy projects worldwide.

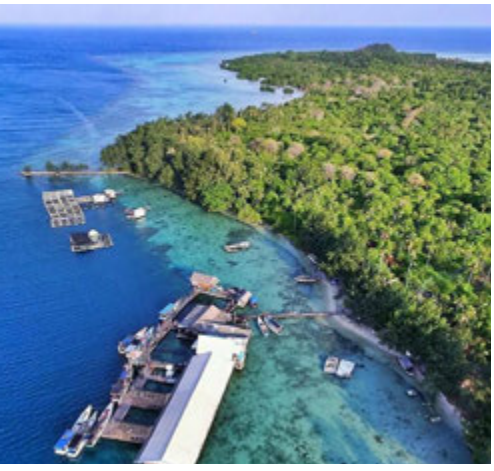
HARNESSING WIND ENERGY IN TAIWAN

The Taiwan government is driving its energy transition initiatives to achieve net-zero carbon emissions by 2050 by expanding offshore wind farms to achieve the milestone of delivering an installed capacity of 5GW by the end of 2025.

In addition to being a leader in harnessing wind energy in the Asia-Pacific region, Taiwan is one of the few countries in the world to surpass the 2GW installed capacity in offshore wind installations.

One of the offshore wind farms that went into commercial production recently off the northwestern coast of Taiwan has 47 wind turbines generating 376MW to power nearly 380,000 households with renewable energy.

The engineering, procurement, construction, and installation works of the foundations and subsea cables for the offshore wind farm was awarded to a global marine contractor, which in turn, subcontracted a global energy EPC contractor to fabricate 32 jacket foundations to support the wind turbines in water depths up to 55m.



The EPC contractor opted to fabricate the jackets in Karimun Island, Indonesia, where the company's largest fabrication yard had been upgraded to cater to wind farm projects. The jackets, each weighing 1,600 tonnes and towering up to 91m–the typical height of a 30-storey building–were among the largest and heaviest structures installed on an offshore wind farm. After the 32 jackets were fabricated, AJHL was subcontracted to transport them from the fabrication yard to the quay for delivery and installation at the offshore wind farm.

SPMTs with 96 axles lines and 4 PPUs were utilised for the transportation of the jackets. Additional axle lines and PPUs were allocated for contingencies.

FIRST-MILE ALLY FOR LNG PROJECTS IN AFRICA RESOURCED BY BATAM INDONESIA

Among the most ambitious energy projects in Africa is the plan to tap into 65 trillion cubic feet of recoverable natural gas off the northern coast of Mozambique, starting with the construction of two liquefaction units with a capacity of 13 million tons per year.

Within the scope of works of this ongoing project, the operator of the LNG project awarded a contract to an electrical, instrumentation and telecom (EIT) service provider in Indonesia for the fabrication and transportation of prefabricated electrical substation buildings or electrical houses (e-house modules) integrating an electrical control and power management system with gas-insulated switchgears, medium voltage switchgears, and low voltage switchgears.

After the e-house modules were fabricated in Indonesia, AJHL was hired to transport them from the fabrication yard to the quay for loadout onto a barge.

Having been involved in the project from the tender phase, AJHL had a thorough understanding of the client requirements and job site conditions to assess all risks and plan the transport job meticulously.

SPMTs with 60 axles and 2 PPUs were utilised for the transportation of the modules weighing upto 300 tonnes. Safety protocols were implemented in compliance with the standards mandated by all the project stakeholders, and daily toolbox and pre-task talks were scheduled at the job sites, which led to the successful completion of the project without LTI.

TIGHT TEAMWORK

Two large cranes manoeuvred by AJHL work in tandem within a confined space to execute upgrade works at a petrochemical complex in the UAE

A UAE-based EPC contractor involved in the maintenance and engineering works of a petrochemical complex in Abu Dhabi contracted AJHL to carry out lifting works for the removal and installation of large components for upgrade works of a chemical plant during its shutdown.

The large-scale operation required the maneouvring of oversized equipment within a very confined space due to the small built-up area of the production facility. This required all lifting operations to be planned meticulously and executed with precision, in coordination with the several other contractors and service providers working at the job site.

The biggest operational challenges were the selection of cranes to fit the extreme site constraints, mobilizing, rigging and assembling them at the congested job site, and operating them within close proximity of each other.

After conducting thorough risk assessments and load calculations, a 650 tonne and 400 tonne crawler crane were selected as the main crane and tailing crane, respectively, and the sequence of the lifts was analysed.

The lifting methodology, safety features and lifting capacities of the cranes were discussed with the client, and a detailed lifting schedule was developed to ensure that lifting operations would not interfere with the mobilisation of other equipment and activities at the site.

The heaviest component lifted by the 650 tonne crane was a 405 tonne ammonia converter. The operation was executed by rigging the crane in the 'Sideways Superlift' configuration with a 54m main lattice boom. The ammonia reactor was lifted by the crane at a working radius of 13m while maintaining a minimum elevation of 6m.

AJHL's Demag CC3800 crane equiped with suspended ballast weighing 325 tonnes was required to position the load at a radius of 13m. However, the space available at the site did not allow the this large crane to rotate, which necessitated the travel of the crane with the load to the installation area.

GROUNDBREAKING PROJECT DELIVERY IN INDIA

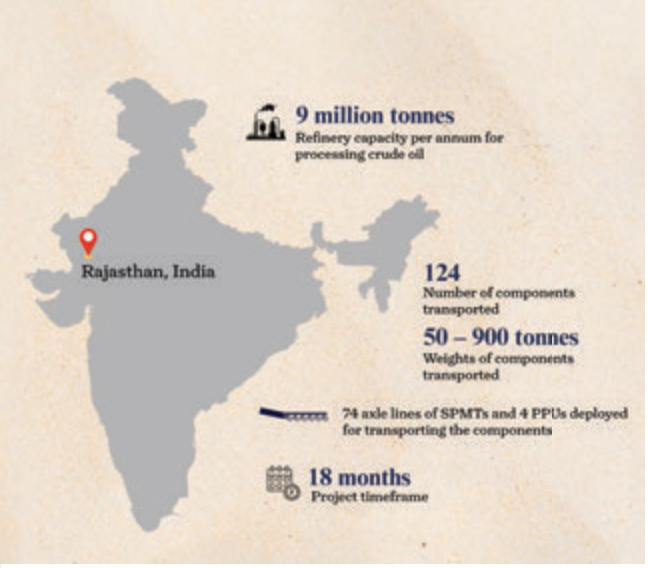
AJHL brings world-class heavy haulage expertise to a greenfield energy infrastructure development project in the northwestern region of India

India, currently the world's third-largest energy consumer, is witnessing an accelerated pace of expansion and modernisation of its energy infrastructure to meet the fast-growing demands of its growing population. It is estimated that the primary energy demand in India will double in the next two decades, from the current 19 million barrels of oil per day to 38 million barrels per day by 2045.

The Indian government is scaling up the country's refining capacity from 250 million tonnes per annum to achieve 450 million tonnes per annum by 2030, while strengthening its position as a prominent exporter of petrochemicals and finished products.

Among the groundbreaking projects integral to achieving the government's vision is a greenfield refinery and petrochemical complex under construction in the state of Rajasthan. When completed, the refinery will have the capacity to process 9 million tonnes of crude oil per annum.

A leading global EPCC company involved in the execution of various packages of the project subcontracted AJHL for the transportation of 80 components weighing 40–900 tonnes for construction of the refinery, within a time frame of nearly 18 months.



The blue-chip client awarded the contract to AJHL on the basis of a strong three-decade-long relationship with AJHL and the exceptional capabilities of AJHL to meet stringent government regulations worldwide and safely deliver high-profile projects within the agreed time frames and budgets.

The job site presented several obstacles such as narrow and uneven routes, steep grades, tight turning radius, and height limits.

AJHL initiated techno-commercial meetings with the client to advise on job site improvements, allocation of resources, heavy transportation methodology including the selection of equipment, safety features and capacities of the equipment, and plans for preventive maintenance and inspection of the equipment.

Job site surveys and safety analyses were conducted to determine all risks and hazards and implement control measures. Subsequently, a comprehensive transport schedule was developed to ensure that the SPMT operations would not interfere with the mobilisation of other equipment and activities at the site.

SPMTs with 68 axle lines and 4 PPUs were deployed for transporting the components. Additional risk and safety assessments were conducted for complex transport operations. For example, the jacking, insertion, and transportation of a regenerator module was carried out after evaluation of the weight, dimensions, and structural integrity of the module in collaboration with the client. Subsequently, the jack-up, transport, and jack-down operations of the regenerator module were carried out in line with the highest safety standards.

The technical and logistical expertise of AJHL combined with the strength of the company's heavy equipment fleet enabled the meticulous planning and execution of all operations and mobilisation of equipment in line with the project schedule, enabling AJHL to transport over 32,000 tonnes while meeting all regulatory and safety requirements.

WORLD RECORD PARTNERSHIP

AJHL blends might and elegance to lift and install the world's largest Borealis Borstar gas phase reactors and other components for expansion of a polyolefin complex in the UAE

One of the largest industrial projects underway in the UAE is the latest expansion phase of a polyolefin complex in Abu Dhabi aimed at boosting its production capacity by nearly 30%. When complete, the production facility will become the world's largest single-site polyolefin complex.

AJHL was subcontracted by a global EPC company involved in the execution of three packages of the project, for the heavy lifting and installation of critical components such as gas phase reactors, loop reactors, and splitter columns for construction of the new production facilities.

Among these components were the world's largest Borealis Borstar gas phase reactors that were manufactured in the UAE. Each reactor weighed 460 tonnes and measured 36.1m x 8.8m. AJHL was selected for its expertise in handling gas phase reactors, having lifted several such components during the previous expansion phases of the polyolefin complex.

The biggest operational challenges were the limited space available at the job site for handling the large components, rigging and operation of cranes, and completing the lifting jobs within the project timeframe.

After conducting thorough technical evaluation, risk assessments and load calculations, a 1,600 tonne, 600 tonne and 280 tonne crawler crane

were selected to serve as the main crane and tailing cranes according to the size of the different components, and the sequence of the lifts was analysed and tailored to the delivery schedule accordingly.

The 460 tonne gas phase reactors were lifted with the 1,600 tonne crane rigged in the superlift configuration. Manoeuvring the 1,600 tonne crane, in particular, was challenging due to the large size of the crane and the congestion at the job site.

The handling of the loop reactor had to be managed carefully due to its delicate structure and the limited space available for its placement. The 117 tonne loop reactor towering to a height of 60m was built on-site by the client and had to be positioned near the crane without obstructing adjacent site activities.

The operation was executed by rigging the 600-tonne crawler crane in the 'Sideways Superlift' configuration with a 102m main lattice boom and supported by the 280 tonne tailing crane. The loop reactor was lifted by the crane at a working radius of 30m while maintaining a minimum elevation of 15m.

A suspended ballast weighing 250 tonnes was required to position the load at a radius of 30m. However, the limited space available at the site did not allow the large crane to rotate, which necessitated the travel of the crane with the load to the installation area.

Despite the challenging conditions at the job site, careful planning and favourable delivery schedules enabled AJHL to all lifting jobs ahead of the schedule.

LEADING WITH VISION AND LEGERITY

AJHL demonstrates its adaptability by developing a feasible strategy for transporting over 1,600 diverse components and lifting 181 components to support the expansion of onshore LNG facilities near the world's largest natural gas field in Qatar.

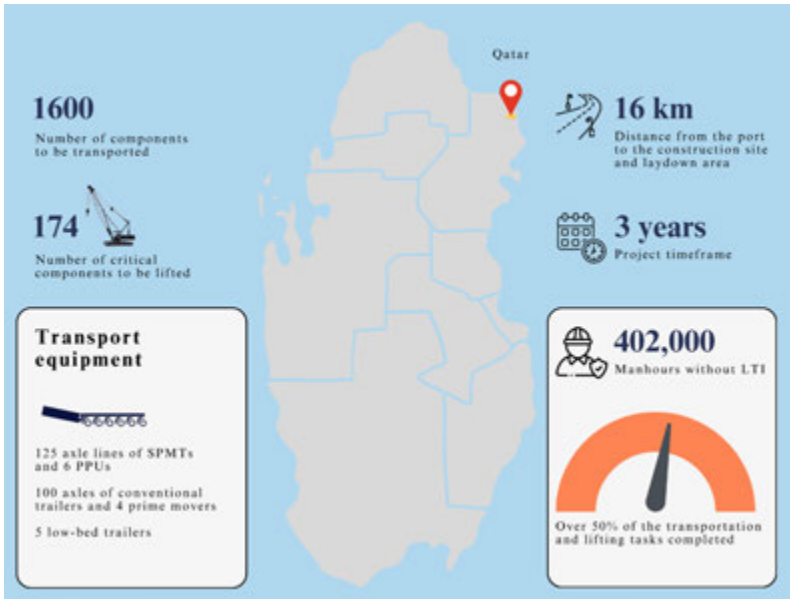
Qatar, one of the world's largest producers of natural gas, aims to boost its production of liquified natural gas (LNG) by over 40% annually with the expansion of onshore LNG processing facilities. Natural gas and other hydrocarbons produced offshore in the North Field, the world's largest natural gas field located off the northeast coast of Qatar, are processed onshore in industrial cities with dedicated ports.

The main contractor, a global EPCC company responsible for construction of new LNG trains or liquefaction units and associated utility

and offsite facilities, turned to AJHL to overcome the extraordinary challenge of transporting and lifting diverse components.

Leveraging the expertise of a dependable partner

Awarded a crucial three-year subcontract, AJHL is responsible for the logistical challenge of transporting over 1,600 diverse components across a 16km stretch from the port to construction sites and laydown area, and subsequently handling them from the laydown areas to the site. Additionally, AJHL manages the intricate lifting and installation of 181 critical components, essential for the expansion of the onshore LNG facilities.



Tackling complex challenges head on

The project's complexity is underscored by the diverse nature of the components, varying significantly in shape, size, and weight (50–1,200 tonnes for transport and 20–405 tonnes for lifting). This necessitates specialised equipment capable of multiple configurations along with robust contingency planning to manage unexpected challenges. The spatial limitations and accessibility issues at the sites further complicate the lifting operations.

It was apparent that conventional transportation and lifting methodologies would not suffice. As a specialist in engineered heavy lifting and transportation, AJHL was expected to think outside the box and devise methodologies that could be applied consistently to every aspect of the operations and ensure the safe and timely delivery of all the components.

Leaving no stone unturned

AJHL presented a detailed plan and lifting methodology which factored in all potential risks and allocation of resources for the duration of the project. The planning process included multiple brainstorming sessions with the client to discuss method statements, site engineering studies (transport/lifting), micro level schedule, look-ahead, critical lift plans, inspection and test plans, safety protocols and contingency plans to arrive at the most streamlined approach for project execution. These efforts ensure that

every phase of the transportation and lifting process adheres to stringent safety standards and is executed efficiently.

Selecting the best equipment mix for the job

AJHL curated the optimal mix of transport and lifting equipment, including SPMTs with up to 110 axles and 5 PPUs, conventional trailers up to 82 axles and 4 prime movers, 5 low-bed trailers and a range of crawler cranes (650 tonne, 400 tonne, and 280 tonne crawler cranes and mobile cranes). This selection ensures readiness for all operational demands, supplemented by additional resources for contingency scenarios.

To address contingencies, AJHL has allocated additional resources, including 14 supplementary SPMT axles, 2 additional PPUs, 26 axles of conventional trailers, and an additional prime mover.

Flawless execution and teamwork

Having skilled and experienced team members enables AJHL to execute every transport and lifting plan with precision while ensuring a smooth flow of information among all the stakeholders.

AJHL has successfully transported over 1,000 diverse equipment such as a demethanizer column (1,016 te), main cryogenic heat exchanger (335 te), dehydration feed gas KO drum (602 te), expander feed separator (407 te), boilers (400te), air receivers, Selexol absorbers, and phase separators..

Simultaneously, AJHL has successfully lifted more than 75 heavy equipment without lost time injury (LTI), such as a slug water dump vessel (405 te), boilers (358 te), knock out drum (248 te), oxidizer tower (230 te), and product gas KO drum (177 te).

Despite the ever-changing weather conditions throughout the year, meticulous weather planning and work scheduling for staff has enabled AJHL to manage all the operations efficiently without interruption.

No compromise on safety and operational excellence

To date, AJHL has successfully transported and installed a variety of heavy plant equipment critical to the project's progress. The dedicated team at AJHL comprising over 77 professionals including engineers, managers, and technical staff continues to demonstrate their expertise and adaptability in a dynamic project environment.

Remarkably, AJHL has completed over 50% of the transportation and lifting tasks, achieving more than 340,000 man-hours without LTI. This milestone was further celebrated with AJHL recognise in the annual safety awards, recognising their commitment to safety and operational excellence.

SMOOTH INDUCTION OF NAVAL VESSEL

Tackling space and stability limitations at the quayside, AJHL executes a diagonal loadout of a 1,016 tonne landing craft in UAE

A UAE-based ship building company which manufactured a 1,016 tonne landing craft in the UAE sought AJHL's expertise for the transportation and loadout of the vessel in Abu Dhabi.

Having executed similar heavy haulage projects for the client, AJHL was contracted to transport the landing craft measuring 71m x 14 m across a distance of 350 m from the fabrication yard to the quay and then the loadout of the vessel on to a barge, within a timeframe of five days.

AJHL was involved in the project from its bidding stage, which enabled the meticulous planning of all operations, selection of equipment, and allocation of resources.

The major challenge at the job site were space limitations and stability concerns at the quay which didn't allow the barge to be positioned parallel to the quayside. This necessitated the loadout operation to be executed diagonally with respect to the quayside while negotiating hazards such as a cable trench.

Following thorough risk assessments, detailed load-in and load-out plans were created to accommodate the position of the barge and facilitate the safe transfer of the vessel from the quay to the barge.

SPMTs with 68 axle lines and 2 PPUs and prime movers with counterweights were utilised for the transportation and loadout operations.

Initially, the landing craft was lifted up from the fabrication supports by using the SPMT suspension systems, and the vessel was transported to the quay.

Prior to the loadout operation, the barge was berthed at an angle with respect to the quayside, and the mooring lines were secured by using prime movers with counterweights. The cable trench was covered and reinforced with steel mats to enable the safe manoeuvring of the SPMTs toward the barge. The loadout of the vessel was executed by steering the SPMTs onto the barge which was positioned diagonally to the quayside.

READY FOR PICK-UP

AJHL delivers 2000 tonne e-house module safely for loadout operation in Singapore

The Santos Basin, located off the southeast coast of Brazil, is one of the most promising exploration sites for pre-salt oil deposits in the world, with depths of the pre-salt layer exceeding 7,000m. One of the deepwater oil fields in this sedimentary basin, located around 230 km off the coast of Rio De Janeiro, is undergoing expansion of offshore pre-salt exploration and extraction activities supported by one of the largest floating, production, storage and offloading (FPSO) vessel fleets in the world.

The operator of the deepwater oil field contracted a Singapore-based EPCC company for construction of an e-house module weighing over 2,000 tonnes for offshore installation at the oil field. After the e-module was manufactured in Singapore, AJHL was subcontracted for transportation of the e-house module to the quay for its loadout operation onto a barge for onward shipment.

AJHL was faced with the challenge of navigating space constraints leading up to the quay, which required precise route planning and manoeuvring of the module with specialised transport equipment.

Having conducted extensive risk and safety assessments in the planning stage, AJHL deployed SPMTs with 120 axles to transport the module to the quay. The main factor contributing to the safe and efficient execution of the transport operation was the meticulous planning and preparation by the AJHL team, considering every aspect of the transportation, from assessing the weight distribution to ensuring compliance with safety regulations.

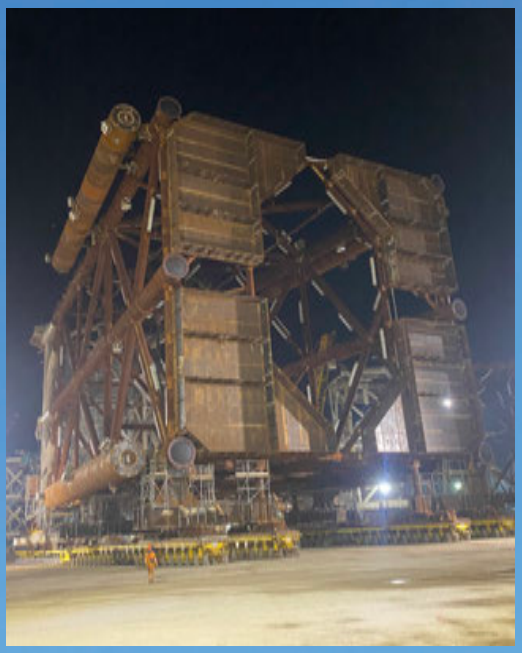
ASSISTING THE WORLD'S BIGGEST SINGLE NON ASSOCIATED NATURAL GAS PROJECT IN QATAR FROM KARIMUN, INDONESIA

The Qatar government is implementing a project to sustain the current production capacity of offshore wells in the North Field, the world's largest natural gas field located off the northeastern coast of the country.

The engineering, procurement, construction, and installation contract awarded to a global energy EPC company covers the modification and expansion of offshore and onshore facilities including the construction of new wellhead platforms, riser platforms, pipelines, subsea cables, and the expansion of an existing onshore LNG plant.

Within the scope of works of this ongoing project, the client sourced six jacket platforms weighing 2,100–3,800 tonnes from the EPC contractor, which delivered the jackets from its largest fabrication yard in Indonesia.

After the jackets were fabricated, AJHL was awarded the subcontract for the transportation of the jackets from the fabrication yard to the quay, followed by their loadout onto a barge for delivery to Qatar.



Early engagement by AJHL facilitated a comprehensive understanding of the client's requirements and allowed for meticulous planning of the operations in compliance with the high safety standards of the project stakeholders.

SPMTs with 172 axle lines, 8 PPUs, were utilised for the transportation and loadout operation, and additional axle lines and PPUs were allocated for contingencies. The SPMTs were used in various configurations to accommodate the diverse sizes and weights of the jackets.

PRECISE URBAN MANOEUVRE

Navigating city traffic, permits and space limitations, AJHL transports and lifts 137 tonne components for construction of a bridge at the bustling Downtown Dubai area

Downtown Dubai, the bustling hub of the city and home to landmarks such as Burj Khalifa and Dubai Mall, is by no means easily accessible for large vehicles, let alone those transporting oversized equipment. It's within these constraints that AJHL was contracted by a leading UAE-based real estate developer for the transportation and lifting of components for the construction of a bridge in the area.

The steel bridge sections, weighing 137 tonnes and measuring 37m x 7.5m x 4m, were fabricated for installation on the concrete columns of the bridge.

The bridge sections would be the largest components ever to be transported through the streets adjacent to the Dubai International Financial Centre, and therefore, presenting the herculean task of manoeuvring the transport equipment through the relatively narrow roads leading up to the job site.

Another major challenge for AJHL was to tackle the highly restricted working area available at the job site which extended to the middle of the road, allowing just enough space to place the superstructure and assemble the crane for the lifting job. All these operations were required to be conducted at night-time due to road restrictions

A preliminary heavy transport survey and technical study were conducted to identify the most viable route capable of transporting the bridge sections, and the transport operation was scheduled to take place overnight as the local authorities issued permits for only four hours after midnight.

Prior to the mobilisation of equipment, all the necessary permits were procured by liaising with various authorities and owners for the removal of obstacles including streetlights and signboards. The civil works required to prepare the road surface for handling the oversized cargo and enabling the transport equipment to cross over a traffic island were arranged by AJHL.

After conducting thorough risk assessments and load calculations, a 650 tonne and 250 tonne crawler crane were selected as the main crane and tailing crane, respectively, and the sequence of the lifts was analysed for optimisation. Once the cranes were put into operation, all transportation and lifting works were completed by AJHL within the timeframe and without interruption to other activities at the job site by collaborating with client representatives and road transport authorities.

REPEAT VALUE FOR TIME-SENSITIVE JOBS

AJHL is renowned for delivering excellence with consistency especially under tight deadlines in Saudi Arabia

For several years, AJHL has been involved in the expansion project of a prominent oil field in Saudi Arabia aimed at increasing the production of crude oil and natural gas through integrated offshore and onshore developments. One of the contracts under the project involving the construction of inlet storage and compressing facilities and NGL recovery and fractionation facilities required AJHL to transport and lift a 536 tonne de-ethanizer for construction of a gas processing plant.

This was the second project involving AJHL and the EPC contractor in Saudi Arabia. Previously, AJHL had erected one of the world's largest demountable flares during the upgrading of the largest refinery in Saudi Arabia, located in the Eastern Province. With an assembly derrick height of over 200m and the heaviest pre-assembled top module exceeding 160 tonnes, the heavy lifting job was executed by using a high-capacity 3200 tonne crawler crane with a twin boom attachment.

Having executed several heavy lifting subcontracts on a timily basics without LTI for the integrated offshore and onshore development project over many years, AJHL has established itself as a reliable partner for resolving any challenge, especially during time-sensitive situations. Despite significant time pressure, AJHL presented a detailed transport and lifting plan, considering all possible risks and emergency measures.

SPMTs with 68 axle lines and 3 PPUs were deployed for the transportation of the de-ethanizer; and a 1600 tonne crawler crane, for the lifting operation.

The main challenge at the job site was rigging and operating the crane in a congested area. The lifting works required the 1600 tonne crawler crane to be dismantled and reassembled more than 20 times. AJHL achieved this remarkable feat while maintaining its safety benchmark of a zero LTI, by implementing the most advanced safety processes and technologies.

MEASURE TWICE AND CUT ONCE

Connecting offshore assets, Batam Indonesia

Another contract of the North Field project awarded to a global energy EPC company covers the engineering, procurement, fabrication and installation of offshore gas compression platforms, flare platforms, interconnecting bridges, living quarters and interface modules.

Within the scope of work under this contract, the fabrication of the interconnecting bridges was contracted to a global engineering and fabrication company in Indonesia. After the bridges were fabricated, AJHL was subcontracted for the transportation and loadout of the six interconnecting bridges for onward shipment.

The main challenges of this loadout operation were inclement weather conditions and significant time constraints, which AJHL successfully overcame by optimisation of the equipment and diligent supervision.

Early engagement by AJHL facilitated a comprehensive understanding of the client's requirements and allowed for meticulous planning of the operations in compliance with the high safety standards of the project stakeholders. Initially, a job safety analysis was conducted to determine all risks and hazards and implement control measures.

The optimal transportation and loadout method was determined to be the application of SPMTs for the transportation of the bridges from their fabrication yard to the quay and then the loadout of the bridges from the quay onto a barge via roll-on/roll-off ramps.

SPMTs with 30 axle lines, 2 PPUs were utilised for the transportation; and 4 sets of roll-on/roll-off ramps, for the loadout operation. All the equipment was subject to rigorous inspections by the Indonesia Ministry of Manpower and client representatives.

The outstanding achievement of AJHL was executing the loadout without any LTI. Maintaining continuous communication with the client and the appointment of a full-time loadout coordinator ensured immediate responses to queries. Regular site visits by the client representatives further solidified the collaborative approach,fostering an excellent working relationship and understanding with the client throughout the project.

LOGISTICS LEADERSHIP

AJHL demonstrates exceptional supply chain efficiency, mobilising SPMTs from across the Middle East and Asia Pacific to transport and loadout two 8,120 tonne jackup rigs in the UAE

A UAE-based energy EPC contractor involved in the construction and delivery of two colossal jackup rigs turned to AJHL, its long-standing and dependable partner, to execute the complex transportation and loadout of the rigs.

The scope of the project included the transportation of two 8,120 tonne jackup rigs, each measuring 74m x 63m, across a distance of 500m from the fabrication yard to the quay and then their loadout onto a barge, within a timeframe of 5 days. Each jackup rig was manufactured in the UAE and equipped with advanced offshore drilling equipment and accommodation for up to 120 people.

AJHL engaged in the project from its bidding stage and continued providing support during the fabrication of the rigs, which enabled the meticulous planning of all operations, selection of equipment, and allocations of resources.

The biggest challenge was the monumental task of sourcing 296 axle lines of SPMTs and 8 power packs from AJHL's international branches during a peak period.

The technical and logistical expertise of AJHL combined with the backup of the company's heavy equipment fleet enabled the mobilisation and assembly of all the equipment in line with the project schedule.

Another challenge was the limited usable load bearing space underneath the hulls of the jackup rigs and the centre of gravity offset of the hulls which supported a weight equivalent to 15 A380 aircraft or 45 blue whales. To address these concerns, a detailed load-in plan was created to accommodate the offset centre of gravity of the hulls while bearing the total load of 8,120 tonnes. With the SPMTs in position and the hydraulic and electronic systems connected, each jackup rig was lifted up from the fabrication supports using the SPMT suspension systems. Subsequently, the rigs were transported to the quay and onto the barge for delivery to their offshore locations.

BIG LIFT IN A CONFINED SPACE

AJHL simplifies the lifting of a reactor unit for expansion of a polypropylene plant in the UAE

A leading petrochemical company in the UAE recently expanded its polypropylene production capacity by 25% to meet the growing global demand for plastics in the packaging and industrial sectors.

AJHL was subcontracted by a prominent Saudi-Arabia-based construction contractor involved in the project, for the heavy lifting and installation of a reactor for construction of a new polypropylene production unit.

The biggest operational challenges were the limited space available at the job site for handling the large components, rigging and operating of cranes, and completing the lifting jobs within the project timeframe.

After conducting thorough risk assessments and load calculations, a 1,600 tonne and 650 tonne crawler crane were selected to serve as the main crane and tailing cranes, respectively.

The lifting methodology, safety features and lifting capacities of the cranes were discussed with the client, and a detailed lifting schedule was developed to ensure that lifting operations would not interfere with the mobilisation of other equipment and activities at the site.

The reactor was lifted with the 1,600 tonne crane rigged in 'Superlift' configuration and then transported to its installation area. AJHL's unique ability for exceptional planning enabled the precise lifting of the reactor in a confined space while maintaining minimal site disruption. The project's outstanding achievement was not merely its timely completion but its meticulous orchestration, which defines AJHL as a true market leader.

EMBRACING TALENT DEVELOPMENT

AJHL is actively driving its recruitment and talent acquisition initiatives in line with the ambitious Saudi Arabia Vision 2030

The Human Capability Development Program under Saudi Vision 2030 focuses on preparing Saudi citizens for the challenges and opportunities of the future global labour market. A core pillar of this programme is to align higher education and technical and vocational training with labour market needs by working with the private sector.

AJHL aims to be an exemplary model for this initiative by providing fresh opportunities for young Saudi talent and enabling their career progression. A recent talent acquisition success story is that of Hassan Essa Alaqaili, a 30-year-old Saudi citizen who joined AJHL in 2021. Hassan initially interned with AJHL Saudi Arabia as part of a training programme while pursuing a Bachelor of Science degree in Electrical Engineering at the Prince Mohammad Bin Fahd University.

Recognising his potential, AJHL offered him the flexibility of working part time with AJHL and training at jobsites as he completed his courses. This enabled his smooth transition into a fulltime employee after his graduation.

Hassan's interest in heavy equipment and logistics operations led to his qualification as an SPMT operator through internal training provided by AJHL and manufacturers. In addition, he is trained in the ISO 9001, ISO 14001, and ISO 45001 standards for best practices in quality management, environmental management and health and safety at work.

Described by his manager as a "committed, motivated and a fast learner", Hassan continues to show initiative in acquiring new skills and solving problems at job sites. Hassan has made his mark in the company through hard work and diligence, two valuable employee traits that ALHL recognises and supports with its comprehensive training and development programmes.

ALHL lives by its principle that 'a successful company is built on the success of its employees'. We are committed to acquiring talent through partnerships with educational institutions while also upskilling our workforce through partnerships with manufacturers and third-party entities.

Al Jaber Heavy Lift

Safely onwards and upwards

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