

THAILAND

Ajinomoto Co-Generation Plant Commissioned



The Ajinomoto plant... significant milestone.

The Ajinomoto PTT Co-Generation project consists of a circulating fluidised bed (CFB) boiler (capable of generating 70 tonnes per hour of steam), steam turbine generator (gross power of 8.2-MW at full load), coal-handling system and other miscellaneous balance of mechanical and electrical equipment. The owner of this project is Ajinomoto Co (Thailand) Ltd.

IHI and JEL are responsible for engineering and procurement of all the mechanical, electrical and instrumentation equipment, including CFB boiler, steam turbine generator, transformer, motorised control centre, distribution board, lighting, lightning protection and grounding system, telecommunication system, boiler feed pump, deaerator, chemical feed skid, sampling panels, demin transfer pump, miscellaneous sump pump,

bulk piping and cabling material, as well as all civil and structure design.

Thai JEL is responsible for the civil and structural construction, mechanical and erection, start-up and commissioning of the plant, with assistance from the manufacturer's technical advisers.

The first pile was installed in April 2006; erection of the boiler began in October 2006 and boiler hydrotest was successfully completed in January 2007, a significant milestone. Following that, the plant was commissioned, all electrical panels energised, all motors test run, and all piping flushed. The boiler and steam turbine generator are started up to generate steam and electric power.

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THAILAND

TJEL Secures M&E Contract For Bang Pakong Project

TJEL has secured a contract for mechanical and electrical work for the combined cycle power plant project called Bang Pakong Combined Cycle Power Plant Block 5 project. Owned by the Electricity Generating Authority of Thailand (EGAT), it is a 730-MW multi-shaft combined cycle generating unit located along the river of the same name south east of Bangkok in the Chachoengsao province, Thailand.

TJEL's scope of work consists of

- Two heat recovery steam generators (HRSGs);
- One steam turbine and generator;
- Turbine piping, ducting, condenser, pipe rack, exhaust stack;
- Balance of plant; and
- All electrical and instrumentation work, including switch yard.

TJEL has also secured an engineering, procurement and construction (EPC) contract in April 2007 for circulating water (CW) pipe.



The plant is a 730-MW multi-shaft combined cycle generating unit.

Fabrication work began in June 2007. Marubeni Corporation, the main contractor, has formed a consortium with Siemens Aktiengesellschaft, Germany, and Siemens Limited, Thailand to supply the gas turbine as well as generator steam turbine and generator.

Erection work commenced in early August 2007 for the first column of the HRSGs, with the first ignition of the first gas turbine scheduled on 20 July 2008. Handover for commercial operation is on 29 January 2009.

We are confident of meeting the huge challenge that this contract poses for manpower and equipment resources, and has already mobilised staff and equipment to the site.

INDONESIA

Tarahan Project Completed Ahead Of Schedule

We began erection work in December 2005 on the 100-MW coal-fired thermal power project of PT PLN (Persero) at Tarahan, Indonesia. Since then, many critical milestones have been completed ahead of schedule. Synchronisation of Unit 4 was completed in early June 2007 and Unit 3 has

become ready for initial oil firing and subsequent commissioning activities.

The project is expected to be completed by the end of 2007, and the owner has already started the process of taking over the plant for commercial operation.

Marubeni Corporation is the main contractor.

The circulating fluidised bed boilers (Lot 3) are supplied by Alstom Power Inc of the United States, while the steam turbine generator (Lot 4) is supplied by Fuji Electric Systems Co Ltd of Japan. The power plant has been designed to be environmentally friendly as well as to meet world standards.

We have supplied balance-of-plant (BOP) equipment, including the circulating water system, chlorination system, water treatment plant, waste water treatment plant, high-speed diesel (HSD) oil system, storage tanks, electrical and instrumentation and control (I&C) cabling for boilers, communication, CCTV systems for the entire plant, and fire protection system.

It has been a remarkable achievement to concurrently work on the erection work of the two boilers, steam turbine generators, auxiliaries as well as the EPC of the BOP in a tight schedule. This project is another demonstration of working with a multi-functional approach to meet customers' requirements.

The company has also crossed 3.5 million man-hours without any major accidents.

The 100-MW coal-fired plant... remarkable achievement.



OMAN

1 Million Man-hours Without Injury

Jurong Engineering LLC (Oman) was registered in the Sultanate of Oman in May 2006 with Oman Holding International SAOG (OHI) to execute a project for the Shaded iron and steel plant, located in Sohar industrial port, the capital city of Oman.

The turnkey project for 1.5 MTY direct reduction iron (DRI) core plant was awarded to Kobe Steel Ltd, Japan.

JELLC has received two contracts. One is for civil and building work for the DRI core plant, including all civil foundations and sumps, clarifier, main control building, chemical dosing building, analyser building, compressor building, laboratory building as well as building services and road work.

The other is for the erection of mechanical and electrical work for the DRI core plant, including the steel structure erection, equipment installation, fabrication and installation of piping and ducting, blasting and painting work, refractory and insulation work, and electrical and instru-



The iron and steel plant in Sohar port... safety is top priority.

mentation installation.

The furnace structure installation is the most critical part, comprising 5,110 tonnes of structural steel with the main base columns weighing 66 tonnes each, while the top of the structure reaches 144 metres above the ground. JEL's vast experience in erec-

tion work is critical for this colossal project which when completed will be a prominent landmark in Oman.

Safety is the top priority in all projects. On 23 June 2007, the project has achieved one million man-hours without any lost time injury.

OMAN

Oman Project Team Shares Experience



Mr R.M. Chidambaram, General Manager of Jurong Engineering LLC, Oman.

The team in Sohar... dedicated staff.



Oman is a stunning contrast of desert, mountain and beach covering 300,000 square kilometres, and is home to 1.5 million Omani nationals and 0.5 million expatriates. English is the common language of communication, and the people are friendly and helpful. It has built up excellent infrastructure facilities as it rapidly industrialises. The capital of Muscat has become a bustling, modern metropolis.

Sohar from where JELLC is operating is a seaside city about two hours from Muscat along the coastal highway which passes through thick plantations of dates, mangoes, limes, bananas and vegetables.

JELLC's Shaded project team comprises many young and dedicated staff, said R.M. Chidambaram, General Manager of Jurong Engineering LLC. The smooth success of this project can be credited to the dynamic team displaying JELLC's team spirit.

JEL's Engineering Division



Dr. Ben Tan Kia Yick,
Head of the Engineering
Division... efficient and
effective communication
is key.

Engineering design is a service that JEL has provided to its clients since its inception in 1971. In the early years, a small design team fulfilled the design requirements for work related primarily to fabrication and plant maintenance.

Today, in response to clients' changing needs, the projects that JEL undertakes have seen an increase in scope definition. Thus the design department has registered concomitant growth in staff strength and an improved range of expertise to cover all major engineering disciplines. More significantly, there is now an in-house capability to perform upstream basic design.

Staff from the various departments of the division exchange ideas to improve design strategies and to resolve issues encountered during execution of projects. Efficient and effective communication between the departments is a key factor in achieving success in all engineering, procurement and construction (EPC) projects.

Engineering Division's Departments

In keeping with JEL's desire for increased participation in EPC projects, the Design, Engineering Management, Engineering Procurement and EPC Management departments are brought together to form the division.

Design Department

It consists of four sections: Balance of Plant, Piping and Vessels, Electrical and Instrumentation, and Civil and Structures. The technical services of the department cover all aspects of engineering design, from initial concept appraisal to detailed design. The extensive use

of computerised tools ensures production of accurate and efficient designs that conform to accepted industry standards.

It provides technical services for EPC projects as well as extended scope projects undertaken by other divisions, including the Ajinomoto PTT Cogen Plant, Nigeria Integrated Power Plants, Bukit Panggal CCPS, Tarahan C/F Power Plant, Laem Chabang SLP 60-MW CCGT Power Plant Expansion, Bang Pakong CCPP and SCU VHP Boiler BOP-HPS (high-pressure steam) and BFW (boiler feed water).

Engineering Management Department

It provides engineering co-ordination for extended scope projects in which more than one discipline of engineering design is involved. The Engineering Manager co-ordinates the design activities carried out by the different sections of the Design Department to ensure there are no inconsistencies at the interfaces. He also communicates with clients for engineering inputs and liaises with the projects department on construction-related matters.

Engineering Procurement Department

It is responsible for the procurement of all equipment and materials using specifications and material order lists prepared by the Design Department. By continually sourcing for new vendors and through evaluating their performances, the procurement team ensures that, apart from maintaining competitive pricing, the technical and schedule requirements of the project are satisfied.

It works in tandem with the Design Department and provides procurement service for both EPC and extended scope projects.

EPC Management Department

It is newly formed to management the execution of EPC projects. It is currently executing the Rojana Phase 4 Project, the first EPC project assigned to the Engineering Division.

The Future

The Engineering Division has evolved from the design department of old to play a pivotal role today. Grouping the four departments under its purview is proving to be an astute decision. JEL will continue to reinvent itself to fulfil the current and future needs of its global clients, said Dr Ben Tan, Head of the Engineering Division.

Dr. Tan and his team.



EVENT

Celebrating Record 4.8 m Man-hours Accident-free

JEL has again shown its commitment to safety at worksites by achieving an outstanding record of 4.8 million man-hours without any accident for a continuous seven-month period. This is JEL's best ever accident-free record since 2002.

This marvellous achievement is contributed by the strong project and fabrication management for their positive mindset to improve safety and by taking ownership of safety at their workplaces.

One main contributing factor for this record is that JEL's site supervisors have taken a more proactive role towards safety in giving proper site and shop supervision, including safety instructions.

To celebrate the achievements, a staff party was organised on 27 July 2007 at Raffles Marina for all staff. Senior management encouraged all JEL staff to take personal responsibility in ensuring safety and quality at work. To reinforce this role in safety, staff

put up a light-hearted short play named "Who Is Responsible?"

JEL remains totally committed to safe-

ty and quality as its top priorities and will continue to strive to exceed these records in the near future.



At the staff party... light-hearted play.

VIETNAM

Contract To Supply 20 Process-pressure Vessels

JEL's Fabrication Centre was awarded a contract by J. Ray McDermott Asia Pacific for detail design, supply and manufacture of 20 process-pressure vessels for its Su Tu Vang project in Vietnam. They will be installed at its Batam yard and central processing platform for ultimate delivery to Vietnam.

The vessels will be delivered complete with "process internals" designed and manufactured by McDermott's European

sub-vendor and installed by JEL under its supervision.

All the pressure vessels are designed, manufactured and inspected in accordance with American Society of Mechanical Engineers (ASME) and code-stamped. In addition, JEL has to comply with the owner's Cuu Long Joint Operating Company's stringent technical requirements, including:

- Compliance of plate and forging

materials to be impact tested at minus 40°C;

- Normalising heat treatment of all dished heads;
- Compliance to special project welding parameters that are more stringent than code requirements; and
- Special integral forged nozzles are to be used for heavy wall vessels using materials for low temperature servicing.

Some of the vessels have wall thicknesses (90mm and 75mm thick) that exceed the rolling capacity of sub-contractors in Singapore and the region. The shell courses for the vessels are manufactured by a European vendor and the entire vessels are assembled and welded at JEL's Singapore workshop.

This is JEL's first project with McDermott to manufacture pressure vessels. With the current boom in the oil and gas industry, JEL's excellent performance and quality places it in good stead to handle future orders.

The vessels will be installed in Batam.



EVENT

Sales of Shares in PT Truba Jurong Engineering, SPIC-JEL Engineering Construction Ltd

JEL disposed of its 50 percent shareholding in SPIC-JEL Engineering Construction Limited (now known as SPIC Engineering Construction Limited) on 18 May 2007.

It, however, maintains its strong foothold in India's engineering and construction business through its wholly owned subsidiary Jurong Engineering (India) Private Limited.

JEL disposed of its 45 percent shareholding in PT Truba Jurong Engineering (now known as PT Truba Jaya Engineering) on 30 August 2007. With the disposal, JEL is directing its focus on engineering and construction services in Indonesia through its wholly owned subsidiary PT Jurong Engineering Lestari.

As both India and Indonesia have tremendous investment opportunities in the physical infrastructure sectors, JEL strives to continue its strong presence as an engineering and construction powerhouse in these two countries.

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Mr Osamu Abiko (left) and Mr Andre Purnawan (right) at the signing ceremony on Deed of Share Transfer for PT Truba Jurong Engineering



Mr Toshihiko Osumi (left), non-executive Director of JEL, being welcomed by Mr T.J. Khor, JEL's Head of Corporate Affairs Department.

EVENT

Director Visits JEL Singapore

JEL's newly appointed Director, Mr Toshihiko Osumi, visited JEL Singapore for the first time on 15 June 2007. He was appointed as a non-executive Director on 24 May 2007. He is the Executive Officer and Vice President of Business Administration at IHI Corporation.

EVENT

Birthday Bash

JEL's Manager Director, Mr Osamu Abiko, came up with a meaningful way for management to strengthen bonds with staff – by throwing a birthday bash for them. The party celebrates the birthdays of all those who are born on two current months. The last was for those born in May and June. About 50 attended the function organised by the company's Social and Recreation Committee.

The celebrants were welcomed by a

cheerful "Happy Birthday" song, generous supply of party treats, balloons and hats. Their surprise and joy were noticeable on their smiling faces. Said birthday girl Ms Lim Beng Choo: "I'm really touched by management's wonderful treat; it makes me feel I'm part of the JEL family."

All were won over, and it was evident that everyone appreciated the management's generous gesture.



Celebrating staff birthdays as one family.

Contact

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