



PT GUNANUSA UTAMA FABRICATORS

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about us

PT Gunanusa Utama Fabricators

provides project management, engineering, procurement, construction, installation and commissioning services

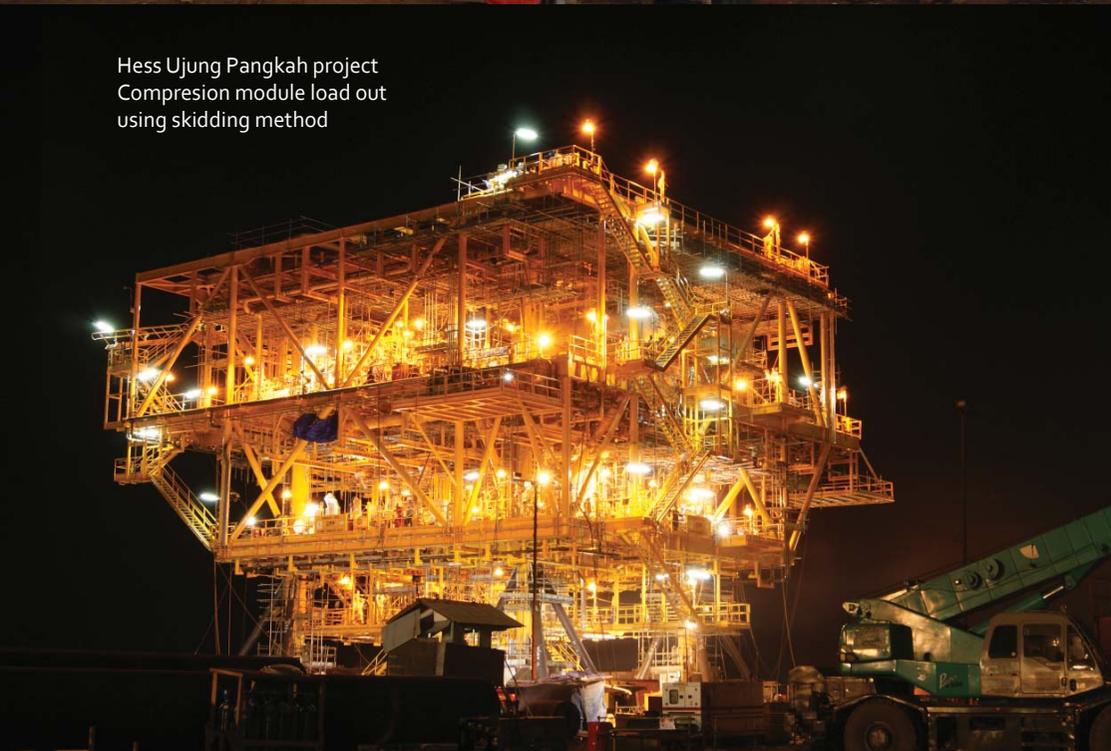
for both offshore and onshore projects in oil and gas and other heavy engineering structures.

Founded in 1980, Gunanusa commenced operations in 1983. Since then, it has secured work not only from the Indonesian market but from other part of the world such as Thailand, India, Brunei and USA.



ONGC Building Module heading to barge using multi wheel transporter

Hess Ujung Pangkah project
Compression module load out using skidding method



engineering

The core of Gunanusa engineering team is a group of senior engineers from various disciplines (structural, piping, mechanical, electrical and instrumentation) with at least 10 years experience in oil and gas offshore platform fabrication.

During the bidding stage, the engineering team supports the bidding team by preparing Materials Take Off and Materials Requisition, as well as by providing technical review of the specification given by vendors.

For load-out activities, the engineering team undertakes structural and ballast calculations to ensure a smooth and safe operation.

The construction engineering team at Gunanusa yard performs the preparation of fabrication and construction drawings which provide the base for fabrication work. They are also experienced in the design of pressure vessels and boilers, according to ASME and BS standards



To support the engineering activities, Gunanusa utilizes a number of engineering software namely SACS (structure), Caesar (piping), PDMS, PV Elite (pressure vessel), Finglow (pressure vessel), etc. We also have a comprehensive engineering library

of engineering dossiers, as-built documents, procedures, standards, etc to speed up the engineering process.

For detail engineering, we are supported by well known and reputable engineering firms who have worked for us for many years.



procurement

Gunanusa Procurement department ensures the timely delivery of materials and information between vendors and projects, including shipping arrangement, custom clearance, materials handling activities, local/inland transport and warehouse storage. Procurement engineering also provides technical backup for materials and equipment package to meet clients' requirements and specifications.

Gunanusa synchronizes its supply chain management using its own Enterprise Resource Planning (ERP) software which coordinates and provides real-time information to assist in the monitoring of schedule, materials take-off, purchase requisitions and warehouse inventory.

To monitor the progress of overseas procurement, we use the services of the world wide inspection companies, such as Moody International (Asia), DNV, Lloyd Register to ensure that all the procured items meet project specifications.



construction

Gunanusa's stellar reputation in the oil and gas field is built by years of fabrication experience, delivering more than 100 offshore structures to customers in Indonesia and the rest of the world.

Nearly all of the structures are built at Gunanusa own fabrication yard, located 120 km west of Jakarta. The yard occupies an area of 18 ha with an 800-meter water front to accommodate two jetties, each with 6000 and 10,000 ton load out capabilities, respectively.

Every structure build at our fabrication yard is custom fabricated by dedicated engineers determined to do their best to fulfill customers needs and schedule.

The Javanese tradition heritage in fine craftsmanship manifested in our platform building which conform to the highest international standards. The same skills and attention to details commonly found in Javanese craft and architecture are now applied to the fabrication of oil and gas platforms using modern materials like Duplex Stainless steel, Fiber-reinforced epoxies and other exotic modern materials.

From material received to material identification, from shop drawing to structural works, from erection and assembly to commissioning our engineer and technician are working hard to ensure that we deliver in accordance with international standard and on the agreed schedule to our customers.



Gunanusa yard is a fully equipped fabrication facility, with a proven track record of delivery of 25,000 tonnes of various modular fabricated structures and have had 6500 personels working at peak period.

A dedicated workshop for welding of exotic materials like stainless steel, duplex, super duplex and CuNi complements the yard facilities along with assembly and erection areas, and a welding school (for training and certification).

The yard has several heavy duty vehicles and equipment, 8 to 450 tonnes cranes (overhead, cherry picker, crawler), welding machines, air compressors, generators, trailers, forklift, winches, tools, etc.

Gunanusa utilizes several arc welding techniques such as, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), Flux Core Arc Welding (FCAW), and Submerged Arc Welding (SAW).

CERTIFICATION :

ASME STAMP

- U - Pressure Vessels
- U2 - Pressure Vessels
- S - Power Broilers

OHSAS 18001 - 2007

Safety, health, and the welfare at the workplace

ISO 9001 - 2008 :

quality management systems

ISO 14001 - 2004

environmental management

installation & hook-up

Our team of experienced engineers is capable of performing on-site hook up and installation, supported by versatile marine spreads, equipment, tools, consumables, utilities and other resources required for site work.



For shallow water installation, Gunanusa uses the float over method. The barge, with full-loaded deck, is positioned above the site and lowered using high capacity ballast pumps and taking advantage of the local tide.

For open sea installation, Gunanusa would employ third party offshore installation company that have the necessary expertise.

Through years of working at the customers' premise, Gunanusa has become very adept in the hook-up process. During these activities, the existing plant which is normally located nearby need to be shut down to allow for safe connection and the testing of connections afterwards.



Gunanusa fabrication yard
is
a bonded area

which allows vendors to deliver materials directly to the yard and clear customs formalities therein

Storage Capacity	
Warehouse	2,500 m ²
Open Storage	40,000 m ²
Environmentally Controlled	40 m x 6 m
Equipment Storage	53 m x 19 m

Fabrication Yard Capacity	
Total Area	18 Hectares
Annual Production	25,000 ton
Office Area	2000 m ²
Bearing Capacity	37 ton / m ²
Workshop Area	33,000 m ²
Automatic Blasting	33,000 m ²
Manual Blasting Indoor	33,000 m ²
Painting Area	8,000 m ²
Working table	7,055 m ²
Power Company Grid	1,800 Kva
House Generators	2,100 Kva
Emergency Generators	2 x 500 Kva, 1 x 550 Kva, 2 x 200 Kva, 1 x 150 Kva

Jetty		
Jetty I		Jetty II
8,000	Module Weight (ton)	10,000
300	Skid Way Length (m)	153
7.5	Water Depth (m)	7
	Single Load	
200	skid way (ton / m)	250
450	jetty tip (ton / m)	550
0.8-1.0	tide variation (m)	0.8-1.0



ONGC Turbine Generator

ONGC Separator Module

ONGC MSF

ONGC Bridge

PTTEP QPS

ONGC Building Module

ONGC PGC Module

PTTEP QPS Jacket

HESS Compression Module

HESS AUP Deck

HESS CPP Deck

PTTEP
Flare Jacket

HESS LO Module

December 22, 2010

HEALTH, SAFETY, ENVIRONMENT

Gunanusa safety objectives :

1. No Fatality
2. No major accident
3. No Major Fire
4. No Explosion

Safety is paramount for Gunanusa

way of life. The value of safety is ingrained in Gunanusa workforce, through regular induction, tool box meeting, safety courses, and in-house train-

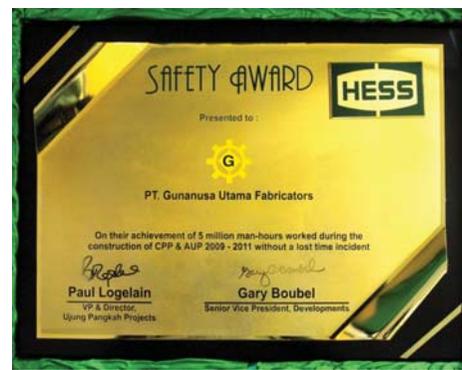
SAFETY IS EVERYBODY BUSINESS

Gunanusa's Safety Motto

20 million Man Hours without LTI and counting

ing.

Gunanusa's overall safety record at the end of August 2011 was over 20 million man hours without LTI. All three concurrent projects during 2009-2011, HESS's Ujung Pangkah CPP & AUP, PTTEP's Bongkot's QPS and ONGC's ICP-R, have produced an almost perfect safety records to date and have contributed more than 16 million man hours without



LTI

stands for Lost Time Incident. It is an industry measurement, based a worker not having lost a day work due to work related incident.

by certified safety inspector with Client Representative where appropriate.

LTI to the company overall records.

Gunanusa maintains detailed record for the training of its employees and subcontractors, evaluates their competency regularly through test and examination, and conducts re-induction and re-training based on evaluation results.

Safety inspectors inspect project area and activities on a regular basis. For example, scaffoldings, the inspection is conducted weekly, certified scaffolding inspectors properly inspected and identified scaffoldings that are not suitable for construction. For other equipment, like cranes, riggings, electrical, compressor, inspection is conducted on a monthly basis

Gunanusa also has procedures in place for reporting and investigation of haz-

Gunanusa Record for the 2011 Projects

Project	Man hours without LTI
PTTEP Bongkot QPS	5,822,751
HESS Ujung Pangkah CPP & AUP	5,796,402
ONGC ICP-R	4,729,219
Total:	16,348,372

ards, risk assessments, and accident including near misses. All incidents are recorded and reported to the management for the purpose of lessons learnt and to develop follow-up actions.



Recent Awards

No.	Client	Project	Award
1.	Hess	CPP & AUP	5 million man hours without LTI
2.	PTTEP	Bongkot QPS	4 million man hours without LTI
3.	ONGC	ICP-R	1 million man hours without LTI
4.	Total Indonesia E&P	Peciko 6	2 million man hours without LTI
5.	Total Indonesia E&P	Various	Mahakam Award 2007 for safety achievement

selected experience

Total's Tunu Development



Total Indonesia E&P operates the Tunu gas and condensate field in East Kalimantan on the outer margin of the Mahakam delta with an average water depth of 8 m. Total has awarded Gunanusa to perform Engineering, Procurement, Construction and Installation. For phase 11, the project consists of 2 platforms, South Manifold Platform (SMP) and

South Compression Platform (SCP). SMP, weighing 2700 ton, consists of deck, Middle Pressure Manifold with pig launcher and pig receiver., Low Pressure manifold, 2 slug catchers, and flare KO drums. SCP, weighing 4600 ton, consists of deck, inlet and discharger, air cooler, turbo-compressors, suction scrubbers, gas turbine power generator packages. SCP compressed the gas before delivery to Bontang LNG Plant. The project, which took 23 months was awarded in December, 2006 and was completed in February, 2008.

HESS - Ujung Pangkah

CPP and AUP

Hess (Ujung Pangkah) awarded Gunanusa the contract for Engineering, Construction, Hook Up and Commissioning of Central Processing Platform (CPP) and Accommodation & Utility Platform (AUP) in October 27th, 2008.

CPP comprises of the Deck module (2000 ton) and Compression Module (650 ton). AUP comprises of the Deck (1600 ton) and Living Quarter (700 ton). The both jacket weight 260 ton with 640 ton piles. The water depth is 10 m. The platforms were installed at Ujung Pangkah, East Java, Indonesia in March, 2011.



Hess awarded Gunanusa for 5 million man-hours without LTI during CPP-AUP project.

**Safety Record :
5 million man-hours without LTI**

PTTEP - BONGKOT

Quarter Platform South (QPS)



PTT Exploration and Production Plc (PTTEP) awards Gunanusa for the Engineering, Procurement, Construction, Installation, Hook Up and Commissioning of the living quarter platform Quarter Platform South (QPS)., for the Development Phase 4A of Greater Bongkot South area in December 29th, 2008.

QPS has a 3000 ton weight, which includes living quarters for 158 persons, galley, recreational room, office, helideck, workshop, emergency diesel, fresh water package, and sewage treatment. The platform were installed in August, 2011.

**Safety Record :
4 million man-hours without
LTI and counting**



selected experience

selected experience

ONGC ICP-R

In May 29th, 2009, Gunanusa with its joint venture partner AFCONS, an Indian construction company, was awarded the contract for the ICP-R Platform from ONGC (Oil and Natural Gas Company), India's national oil company.

The scope of the project is Detail Engineering, Procurement, Construction, Commissioning, and Offshore Installation of the ICP-R process platform and jacket, including a bridge to the nearby ICP platform, and Flare Tripod. The total weight of the platform is 10,000 ton, with the jacket is 5800 ton.

ICP-R platform is modularized into five modules to facilitate transport and installation which are :

1. Main Support Frame
2. Building Module
3. Process Gas Compressor
4. Separator Module
5. Turbine Generator

The platform is installed at Mumbai High North on March 2011

string test

String test of turbo compressor trains are normally carried out in a controlled factory environment. For ICP-R, the String Test was carried out in the fabrication yard to simulate actual operation condition when the modules are finally installed.

Gunanusa tackled this very tough challenge splendidly.

**Safety Record :
4.8 million
hours without
LTI and
counting**



BP TANGGUH

GAS PRODUCTION FACILITIES



The BP Indonesia's Tangguh Gas field in Berau Bay in the province Irian Jaya, Indonesia. The natural gas field contains over 500 billion m³ (17 tcf) of proven natural gas reserves, with estimates of potential reserves reaching over 800 billion m³ (28 tcf).

Saipem as the main contractor for the project subcontracted Gunanusa to fabricate two Gas Production Facilities (GPF)

platforms (VR-A and VR-B), each deck weight is 1200 tons, including jackets (1900 tons each) and piles (1300 tons each). The BP Tangguh facilities have a special requirement, 40 years long term corrosion protection, which Gunanusa accomplished by coating the structures with Thermally Spray Aluminum (TSA).



Hess Ujung Pangkah
AUP Platform

Alstom Astoria Energy Projects

Heat Recovery Steam Generators



As part of a project to increase the electricity supply to the City of New York, Alstom power Inc. contracted Gunanusa to fabricate two identical heat steams Recovery Generators (HRSG). Each HRSG will funnel steam from an adjacent Generator and combined the steam to run another generator. Each structure weight is 2500 tons with a 40 m

height. Gunanusa completed the project in 8 month and loaded out in April 2005 and shipped around the world to city of New York for final installation.

ONGC Project
skirt pile at ready
position

