



HFS HEAVY INDUSTRIES SDN. BHD.

## CORPORATE PROFILE

Building the Future  
Restoring the Power



HFS HEAVY INDUSTRIES SDN BHD (613681-P)

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PROJECT  
HIGHLIGHT

Building the Future  
Restoring the Power



## TOTAL QUALITY MANAGEMENT

Through the years, HFS has honed our niche of providing total EPC service via total quality management approach to satisfy the needs of our client from diverse industries.

The wide range of successful project we have completed, including Non-Pressure part, Pressure Part replacement, and I&C works, as well as supplied skilled workforce for the marine, power generation and oil & gas industries, aptly reflects our commitments to total quality management.

## ABOUT US

### STRONG FOUNDATIONS

Backed by more than a decade of experience in providing the total Engineering, Procurement and construction (hereinafter in referred to as "EPC") service for various industries, HFS Heavy Industries Sdn. Bhd has come a long way to be recognized as a reputable industry player in Malaysia since establishment in 2003.

Our comprehensive workshop facilities, certification that have met the highest standards, as well as accreditations by various statutory, regulatory and professional bodies, are a testament to the top quality assurance which we provided. Building on the foundation, we will continue to raise quality and service standards to greater heights to ensure client's total satisfaction



### VISION

To become the industry leader renowned for spearheading the total suite of one-stop, EPC service to raise infrastructure perfection to greater heights.

### MISSION

- ▶ To provide the most efficient, sustainable and reliable EPC services, guide by our total quality management approach
- ▶ To strive for continuous technological innovations so as to power our client's infrastructure needs with the most advanced and achieve greater efficiency.
- ▶ To engage our clients actively and uphold a personalised approach in project management, thus surpassing clients' expectations and achieving service excellence.
- ▶ To develop the best talents for the industry by enhancing professionalism, fostering commitment and inculcating a can-do spirit among our staff.

## QUALITY POLICY

The management and the employees of HFS Heavy Industries Sdn Bhd are committed to ensure the company objectives are met and providing our clients with the comfort and satisfaction of achieving and exceeding their requirements and expectations.

This will be achieved by adopting a continual improvement of our Quality Management System through:

- ▶ Ensure we understand our Client requirements; legal and other requirements are satisfied and comply to the best of our ability.
- ▶ To strengthen relationships and encourage repeat business with existing Clients.
- ▶ To win work not solely on price but through innovation and added value.
- ▶ Continually strive to improve our performance through analysis and to reduce the occurrence of nonconformity at all levels of business and stages of a project.

- ▶ Effective and efficient management of company human resources that helps the realization of projects in advance of set deadlines, conforming to every quality standard prescribed.
- ▶ To prioritize and value the most valuable asset of HFS, company employees, and to contribute to their technical and self-development through company's structured training programs leading to motivation & empowerment, and to provide social securities.
- ▶ To engender a positive commitment to quality and create an environment of teamwork and cooperation that enables employees to work effectively.
- ▶ To take action plan to address company risks and opportunities by identifying internal and external issues, QMS process and interested parties.

HFS acknowledges that it is incumbent on employees at all levels to ensure that the provisions of the Quality Management System are attained. This is achieved by effective communication and employee's acceptance of their responsibilities with respect to fulfilling the Company's quality objectives.



## OCCUPATIONAL HEALTH & SAFETY POLICY

It is the responsibility and commitment of HFS Heavy Industries Sdn Bhd to provide safe and healthy working environment for our employees through:

- ▶ Provide safe and healthy working conditions for the prevention of work-related injury and ill health for its employees, contractors and visitors,
- ▶ Eliminate hazards and reduce OH&S risks by considering the purpose, size and context of the organization
- ▶ Comply with all applicable safety and health laws and regulations
- ▶ Continual improvement of the OSH management system
- ▶ Develop and enforce the use of safe working practices
- ▶ Provide consultation and participation of workers and training to employees to conduct their work in safe & health manner.

In conducting our business activities, employees of HFS and contractors shall strive to:

- ▶ Prevent all occupational illness
- ▶ Prevent all accidents and injuries
- ▶ Prevent property damage

It shall be the duty of every employee to:

- ▶ Commit the above objectives
- ▶ Report hazards
- ▶ Cooperate with management, participate in safe and health programs and comply with all applicable safe and health laws and regulations.

The application of sound safety and health practices for the protection of our people is an essential factor in the overall success of our business.

# BUSINESS DIVISION SERVICES



## POWER GENERATION

With more than 16 Years of combined experience in managing a wide array of power plant projects, the team in our power generation division is known for delivering impeccable engineering, fabrication, constructing, inspection, repair, retrofit and maintenance services for thermal power plants, co-generation power plants and combined-cycle power plants.

Aimed at assisting our clients on the upkeep and O&M (Operation and Maintenance) improvement of their existing fleets, HFS has developed the capability to service HRSG, IB, FH and Coal Boiler and provide technical solutions to a wide range of reliability, performance and emission issues.

Our engineers are experienced and professional in providing technical solution when client have issue or problem. HFS have been able to produce successful results for our clients, meeting, their needs on time and within budget while supplying quality products. HFS are in-sync with clients time zone.

## BOILER INSPECTION

HFS provides inspection resources, technology and software to provide the most thorough and comprehensive boiler inspections unlike any other boiler inspection company. HFS will provide the plant O&M team the ability to PRIORITIZE and MONITOR corrective action, tracking the status of all repair recommendations. HFS will provide detailed reports with analysis and predictive failure information to determine an accurate current and future state of their boiler systems, and repair recommendations to help minimize unscheduled (forced) outages. HFS ensures its clients a thorough and proper inspection is done on every outage, scheduled or unscheduled. And finally, HFS ensures repairs are done correctly with no "short cut" that would jeopardize the boiler integrity.



## SERVICES FEATURES

### BOILER INSPECTION SERVICE

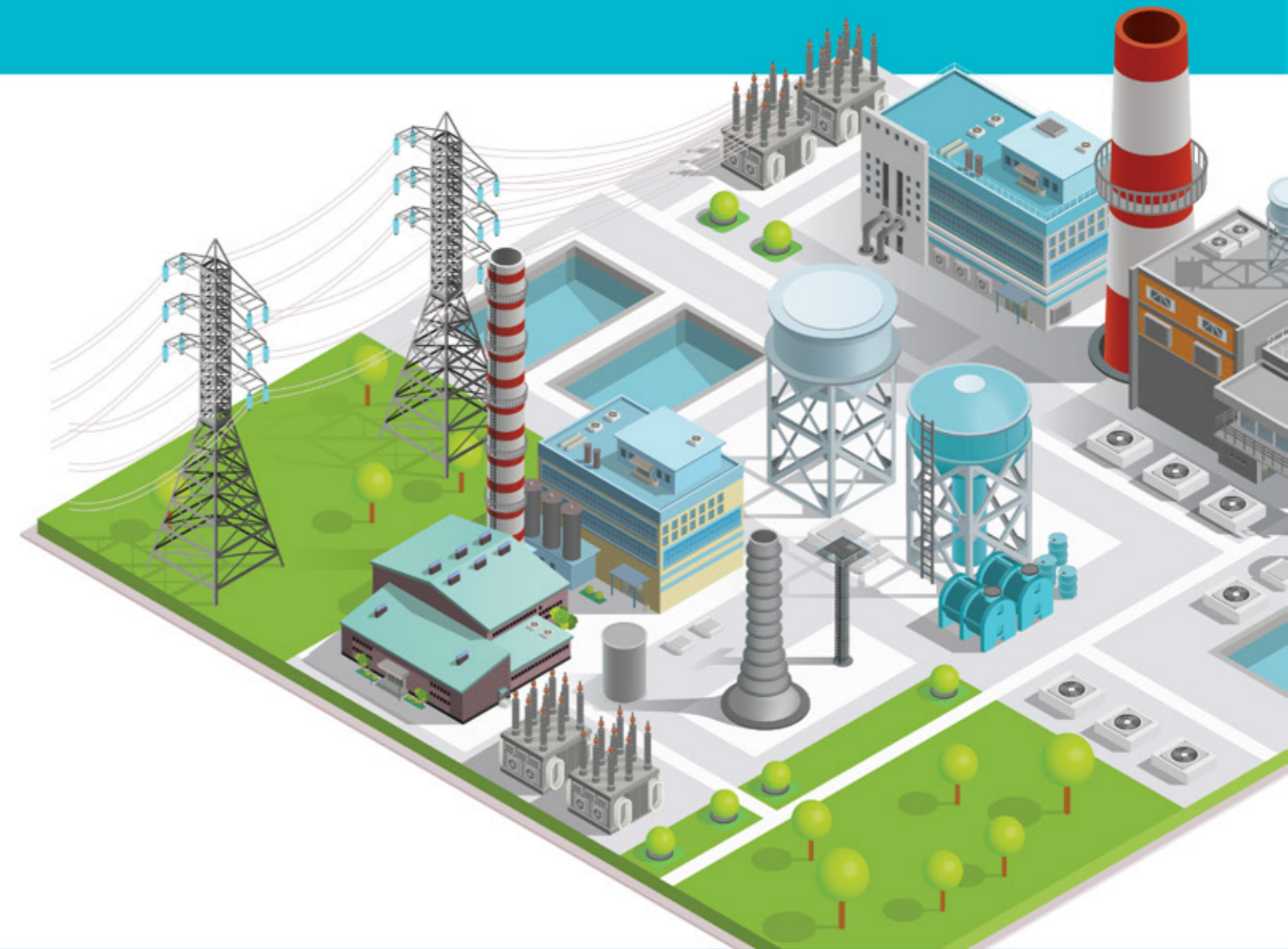
Visual inspection of pressure parts, gas path, steel structure and piping. HFS will carry out evaluation of the results and present inspection report with recommendation.

### ADDITIONAL OPTIONS INCLUDE

- ▶ Pre-outage walkdown and punch list report based on findings and interviews
- ▶ Thermographic survey to review casing, piping and identify leaks or faulty insulation
- ▶ Recommendation for specialist Non-Destructive Examination (NDE) tasks to be performed during the detailed Boiler inspection (NDE to be performed by a qualified NDE technician)
- ▶ Information Management and outage planning support

### TYPE OF BOILERS INCLUDE

- ▶ HRSG (Heat Recovery Steam Generator)
- ▶ Coal Fired Conventional Boiler
- ▶ Oil Fired Conventional Boiler
- ▶ Industrial Boiler
- ▶ OTSG (Once Through Steam Generator)
- ▶ Incinerator
- ▶ Fired Heater



## SERVICES

### GENERAL BOILER INSPECTIONS

A visual survey of the general Boiler condition, external casing, internal gas-side mechanical parts and auxiliary equipment, Readily accessible pressure part components are visually inspected. HFS recommends performing such as general inspection in addition to the basic inspections stipulated by local regulatory requirements.

Time frame requirements: 2 or 3 days boiler accessibility.

### ALIGNING BOILER INSPECTIONS FOR OPTIMIZED AVAILABILITY

In order to prevent forced outages, periodic inspections should be conducted during scheduled outages. This allows the identification of component damage in the earliest stages – when there is still time to schedule a cost-effective repair.

HFS recommends a general inspection every 1 to 2 years and a more detailed inspection every 3 to 5 years. In order to optimize the overall plant availability, it is important to align these inspections with those of the gas turbine. Therefore, the detailed inspection should coincide with a gas turbine planned outage, e.g. the major or hot gas path inspection.

### DETAILED BOILER INSPECTIONS

Includes all the general inspection steps plus a more detailed visual inspection of all accessible pressure parts. This visual inspection will identify any areas of concern that require subsequent non-destructive examination (NDE) to be performed by HFS qualified NDE technician.

Time frame requirement: 4 – 6 days Boiler accessibility.



#### PRE-OUTAGE

- ▶ Walk down and punch list report based on findings and interviews
- ▶ Thermographic survey to review casing and piping and identify leaks or faulty insulation
- ▶ Recommendation for specialist non-destructive examinations (NDE) tasks to be performed during the detailed Boiler inspection (NDE to be performed by a qualified NDE technician)
- ▶ Outage planning support

#### DURING THE OUTAGE

- ▶ Supervision of repair or installation works
- ▶ Visual inspection of Desuperheaters, Blow Down system, Deaerator and Valves
- ▶ Review of any critical indications from the NDE inspections carried out during the detailed HRSG inspection
- ▶ Documentation and evaluation of the inspection results, using OEM lifetime information management system database for efficient Boiler condition optimization

#### POST-OUTAGE

- ▶ Walk down to identify start-up problems

## SERVICES

### BOILER REPAIR

HFS provides a comprehensive selection of boiler repair services. Our services include:

#### RETUBING

Partial or complete retubing for watertube and firetube boilers.

#### WELDING & FABRICATION

All welding repairs; boiler shell plate, tubesheets, headers, staybolts, handholes /manholes, faceplates, doors, breechings & supports. Pipe fabrication of steam, water & gas piping to ASME and /or API code, X-Ray quality welding.

#### AUXILIARIES & FITTINGS

Safety, blowdown, stop & check valves; gauges, test connections, water column piping, feed pumps, cutoffs, preheaters and backflow preventers.

#### REFRACTORY

Firebrick chambers, burner tile, venturi rings, dry oven rings and all refractory repairs.

#### THERMAL & ACOUSTIC INSULATION

Mineral wool blanket & pipe covers, calcium magnesium silicate (CMS) repairs for interior & exterior of boiler.

#### VALVES SERVICE MAINTENANCE

- ▶ Service & replacement
- ▶ Reverse engineering upgrade

### RETROFIT AND UPGRADE CAPABILITIES

The retrofit and upgrading method to be adopted should be decided based on result of inspection and design review.

HFS can evaluate current boiler or HRSG unit and recommend the right retrofit and upgrade package. HFS can provide Turn-Key EPC capacity and our services include;

#### ▶ PP (Pressure Part) replacement

Furnace wall replacement, Harp/semi harps/ module replacement, Bundle (coil) replacement, Link and Manifold pipe replacement, High energy piping replacement

#### ▶ Air and Gas system replacement

Forced draft fan / Primary air fan / Air heater, Duct and casing upgrade

#### ▶ Fuel feeding system replacement

Coal bunker, Coal feeder, Pulverizer, Fuel oil skid, Gas or Oil burner repair and addition

#### ▶ SCR (Selective Catalytic Reduction) and CO system addition and replacement

- ▶ Partial tube leakage repair and/or replacement
- ▶ Expansion bellows and expansion joint retrofit and upgrade
- ▶ MOV/ CV/ Bypass Valves Re-engineering service
- ▶ Integral De-superheater (Attemperator) spray valve upgrade

#### ▶ FCD (Flow Correction Device) upgrade

#### ▶ Leak detecting system, Life monitoring system application

#### ▶ Soot Blower

#### ▶ Reverse Engineering



# SERVICES

## CONDITION ASSESSMENT SERVICES

To provide a genuine one stop option for all your inspection and assessment needs, HFS also offer condition assessment service.

- ▶ Remain life assessment and plant life extension
- ▶ Metallurgical condition review for high temp. components Thermal degradation, Fatigue, Creep
- ▶ Special NDE (PAUT)
- ▶ Portable hardness testing
- ▶ Metallographic replication
- ▶ Failure investigations and material assessment
- ▶ Remote visual inspection with borescope
- ▶ Pipe support surveys for both hot and cold condition
- ▶ High energy piping assessment
- ▶ FAC review
- ▶ Water chemistry review



## QUALITY ASSURED BOILER INSPECTION SERVICES

- ▶ Boiler inspections and all components associated with the equipment in the power and Oil & Gas Industries.
- ▶ Boiler visual inspections, including HRSG, coal boiler and any other type of boiler inspection.
- ▶ Auxiliary equipment
- ▶ Quality Control
- ▶ Solution to welds problem including weld monitoring
- ▶ Facility planning and scheduling



## SPECIALIZED HRSG CONDITION ASSESSMENT

- ▶ **Header Inspection**  
Specialized visual inspection technique to inspect headers for signs of Flow Accelerated Corrosion (FAC)
- ▶ **Phased Array Butt Weld Scanner**  
Specialized device that uses phased array ultrasonics, combined with an encoded circumferential scan, to check the quality of butt welds on manual TIG / orbital pipe welds with diameters from 1.5" to 4.5".
- ▶ **Water Chemistry Review / Corrosion Assessment**  
Corrosion risk assessment based on design, historical chemistry readings, applied chemistry concept and operation profile.
- ▶ **Root Cause Analysis** - For specific problems

## DETAIL SERVICES

- ▶ Detail internal and external inspection, including auxiliary equipment
- ▶ Punchlist for critical work items
- ▶ Recommendations for both current and future repairs
- ▶ Required material list to accomplish our recommendations
- ▶ Detailed service report including photographs and electronic copy
- ▶ Detail AutoCAD drawings for report illustrations and mapping
- ▶ Ultrasonic data review and planning
- ▶ NDE review and trending
- ▶ Code material requirement and procurement

## ADDITIONAL SERVICES

- ▶ Quality service and inspection of damper system
- ▶ Monthly service contracts specific to customer's requirements and will work with maintenance personnel to ensure proper proactive maintenance is met.
- ▶ Turnkey service packages, quarterly or annually, with trained personnel to ensure full potential of the equipment.
- ▶ HFS offer equipment installation supervision to ensure timely schedules are met along with quality observation for the benefit of client's best interest.
- ▶ Boiler retrofit schedules, waterside inspection, furnace fireside inspection, boiler hanger assessments, component assessment and component replacement planning.
- ▶ Monitoring NDE data
- ▶ Contractor Cost Reviews
- ▶ Contractor schedule Reviews



# SERVICES

## SUPPLY OF SPARE PARTS & REPLACEMENT

Regardless of the ancillary equipment required by your boiler or HRSG system, every part you need is available through the spare parts division of HFS. Each part we offer is engineered and manufactured specifically to suit the original specifications of your equipment.

HFS is dedicated to providing our clients with replacement parts of the highest quality delivered in a timely manner. To benefit our clients, HFS maintains a variety of stock items. These parts are available for immediate delivery, and on very short notice.

Trust us to supply the exact replacement parts you need. You will never go wrong with our professional product knowledge. Not only can we supply OEM replacement parts such as valves, gaskets and tubes, we also provide a wide range of specialty replacement parts and upgrade items.



HFS provides engineered manufacturing and spare parts to clients with the highest quality delivered in a timely manner. To benefit our clients, HFS maintains a variety of stock items. These parts are available for immediate delivery, and on very short notice. Our service includes;

- ▶ Water wall Panels
- ▶ Coil/loop
- ▶ Bare tubes
- ▶ Finned tubes
- ▶ Headers
- ▶ Harps/ Modules
- ▶ Link and manifold pipe
- ▶ Piping
- ▶ Drums/Blowdown/Flash Tank/ Deaerator
- ▶ Fittings (Elbow, Reduce, Tee etc.)
- ▶ Manhole, Access Door assembly
- ▶ Demister and Steam Drum Internals
- ▶ Duct and casing
- ▶ Pyro-Block, H-Board, CMS, Insulation
- ▶ Gas Turbine Air Intake System include Filter
- ▶ Safety valves
- ▶ Motor Operated Valve
- ▶ Control Valve
- ▶ De-superheater (Attemperator) Spray Valve
- ▶ Gate, Check, Non-return, Glove Valves
- ▶ Strainer, Steam Trap
- ▶ Stack damper/ Diverter Damper
- ▶ Instrument, Thermowell, Thermocouple, Transmitters
- ▶ Burner/ BMS
- ▶ Level gauge/RDLI (Remote Display Level Indicator)
- ▶ Metallic and Non-Metallic Expansion Bellows
- ▶ Expansion Joint
- ▶ SCR systems
- ▶ Pump
- ▶ Mobile Gas Turbine Generator/ Diesel Engine Generator



## TRAINING

Based on our experience, many users of boiler/ HRSG units have never been properly trained. To meet productivity targets and emissions regulation, it is crucial to operate and monitor the essential equipment in the right way every day.

By conducting on-site personal training seminars which can be tailored for specific site requirements and providing the service of technical personal assist our clients operation and maintenance team.

We have been able to ensure that O&M (Operation & Maintenance) procedure are properly and efficiently implemented. We also train the Boiler and HRSG engineering and inspection upon customer demand.

Below are some of the training programs that HFS can provide on-site to suit our client's schedule;

- ▶ Thermal Review of HRSG
- ▶ Code/ Pressure Parts
- ▶ Boiler Component Engineering
- ▶ Life/ Age Analysis
- ▶ Operation Study
- ▶ Thermal Stress Analysis
- ▶ Vibration and Noise Engineering
- ▶ Failure Mechanisms
- ▶ Water Chemistry
- ▶ Boiler Inspection
- ▶ Preventive and Reactive Maintenance
- ▶ Piping Hanger System



# BUSINESS DIVISION SERVICES

## OIL & GAS

Given the burgeoning developments in the construction, infrastructure, as well as oil and gas industries in the region, HFS has the expertise to keep various sectors well-oiled, literally. With in-depth competencies in turnkey project management and budget development, we have the edge to offer the full range of services, from fabrication, construction, transportation, installation, commissioning, inspection and maintenance of onshore and offshore structures and piping works.

Coupled with specific skills in fabricating and constructing topsides, process skids and modules, jackets, accommodation modules and living quarters, we have become the trusted vendor for oil and gas production facilities, gas processing plants, oil refinery plants and petrochemical plants.

Combining onshore process plant expertise with offshore module fabrication experience, we will continue to spearhead premium value-added services and go the extra mile to deliver the best quality for the oil and gas industry. These are some of the services we have been providing since 2003.

Well-trained, competent and experienced in all aspects of project management, the team at HFS is committed to offering total engineering and construction solutions to satisfy the needs of its clients from diverse industries. At HFS, our professional capabilities span various fields. Whether it is providing marine services to meet shipbuilding needs across different countries, driving power plants with energy solutions, or customising structural and piping works for the oil and gas industries, we have developed the edge to execute a wide array of projects through our three business divisions as follows.



### ENGINEERING FABRICATION AND CONSTRUCTION

- ▶ Steel work, piping and mechanical construction
- ▶ Topsides / Central Processing Platform
- ▶ Process skids and modules
- ▶ Jackets
- ▶ Accommodation modules and living quarters.
- ▶ Provision of manpower services for Onshore and Offshore works
- ▶ Wellhead Platform (WHP)

### MARINE

The Marine division is capable of building, repair, refurbish, and maintain various types of ships to meet various demands from its clients. It provides engineering and construction capabilities for various type of ship and offshore structure and carries out all phases of project implementation.

#### SHIPBUILDING

- ▶ Tugboats
- ▶ Barges
- ▶ Container Shipping Vessels
- ▶ Oil Tankers
- ▶ Onshore Support Vessels
- ▶ Anchor Handlers
- ▶ Platform Supply Vessels
- ▶ Crew Boats
- ▶ Drilling / Tender Barge

#### SHIP REPAIR, REFURBISHMENT AND MAINTENANCE

- ▶ Precision machining
- ▶ Pipe fabrication
- ▶ Hull refurbishment
- ▶ Electrical works
- ▶ Mechanical works
- ▶ Supply of spare parts
- ▶ AQUASTAR™ Ballast Water Management System (BWMS) Retrofit

#### ENGINEERING FABRICATION AND CONSTRUCTION

- ▶ FPSO / FSO / FSU Conversion
- ▶ Jack Up/ Semi Sub/ Tender Rig Conversion
- ▶ AQUASTAR™ Ballast Water Management System (BWMS) Retrofit

# VALVE SERVICE DIVISION

## INTRODUCTION

In fluid handling and processing systems, valves play a critical role—i.e., regulating the flow and pressure of fluids to within an acceptable range for maximum operational efficiency and operator safety. As such, they must be regularly subjected to inspection and maintenance operations to ensure they remain in proper working order. Failure to maintain them can lead to lower processing efficiency and, in extreme cases, component or system failure.



## OUR EXPERTISE EXPERIENCE

Our team is ready to support our customers from regular supply valves on your requirements, repairs and maintenance planning through to complete lifecycle and execution. We also offer maintenance supervision for our customer on installing based and support a long-term maintenance need. Our service work with both new equipment purchase, installation, modernizing and upgrading existing part as well as preventive maintenance activities to ensure that the recommended maintenance services have been followed and completed on a safe standard. We also provide Valves Test, Repair and Calibration Service for All Type of Valves and Valve sizing (Ball valve, Butterfly valve, Choke valve, Diaphragm valve, Gate valve, Globe valve, Knife valve, Needle valve, Pinch valve, Piston valve, Plug valve, Solenoid valve, Spool Valve and etc). We are also accredited under ISO9001 & ISO45001.

## ENGINEERING SERVICES

- ▶ Good customer service & Engineering Services does not end with the sale, it is only the beginning.
- ▶ We will support you with professional installation & commissioning, troubleshooting, and engineering service include reverse engineering of control valve.

## VALVE MAINTENANCE & SERVICES (ALL TYPE OF VALVE)

- ▶ Service maintenance, overhaul & testing (workshop & In-situ)
- ▶ Valve preventive maintenance and corrective maintenance
- ▶ In-situ valves machining and services
- ▶ Valves flushing, lubrication & sealant on-site
- ▶ Manage and execute shut-down and preventive maintenance
- ▶ Actuator valve service and repair
- ▶ Fabricate and supply new parts (soft parts & metal parts)
- ▶ Supply competent manpower

## INSTRUMENT / ELECTRICAL MAINTENANCE, SERVICE TESTING & RE-CALIBRATION

- ▶ In-situ maintenance, service & overhaul
- ▶ Control valve on-site calibration
- ▶ Transmitter annual calibration
- ▶ Plant commissioning and start-up
- ▶ Control valve actuator refurbish and service
- ▶ Built-up control valve control panel and system
- ▶ Supply competent manpower
- ▶ Safety valves pop-test and recalibration on-site

## TESTING & COMMISSIONING

- ▶ This service includes installing, testing, commissioning and maintenance of various type of valves.

# VALVE SERVICE DIVISION

## SUPPLY OF VALVE AND SPARE PARTS

► As an Authorized Distributor for S&S, Samshin, Unicon & SVC Valve in Malaysia and Singapore, we provide a wide range of valve products include control, cryogenic, manual, safety valve & the spare parts.



## ONE STOP SOLUTION PROVIDER

We carry out on-site and in-house valve servicing inclusive of re-conditioning, replacement of parts, testing & calibration as well as ensure continuous production with periodical & preventive valve maintenance and repair service. We are a one-stop valve service on maintenance process from dismantling, overhaul and repair through to re-installation, commissioning and replacement. We know that all valves must be repaired at a certain period, as incorrect valves repair services will cause a part of safety risks. Therefore, with our experienced technical team which are well trained, We always ensure our customers to receive quality valves that meet their expectation after maintenance to receive a longer lifetime. As an Authorized Distributor for S&S, Samshin, Unicon, Dong Kang Metal and SVC Valve in Malaysia and Singapore, we provide a wide range of valve products include manual valve (casting & forging), control valve, cryogenic valve, safety valve & etc which can be referred on our website.



# REVERSE ENGINEERING PHILOSOPHY



## REVERSE ENGINEERING IN HFS PROVIDES CUSTOMERS :

- ▶ Complete service from maintenance to the supply of all necessary spare parts
- ▶ The minimization of our customer's warehouse stock
- ▶ Reduction of general maintenance cost
- ▶ Improved and upgrade for better performance

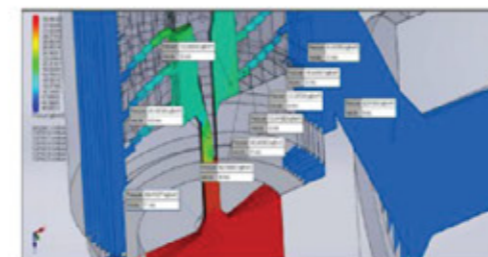
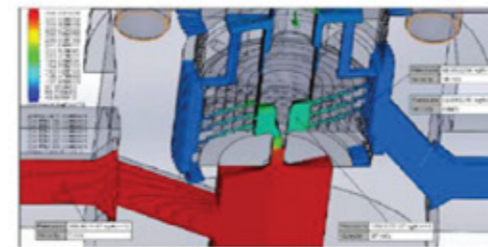
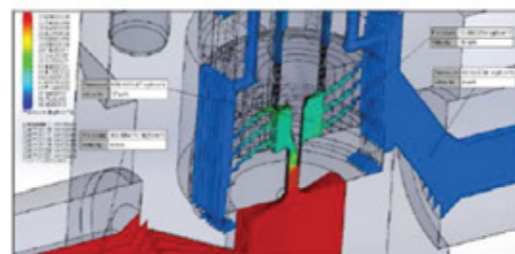
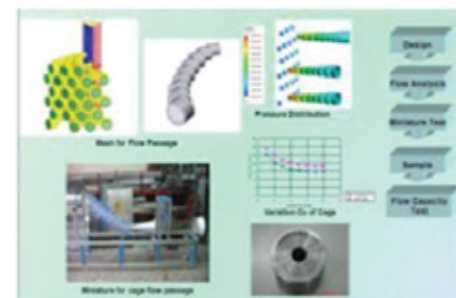
Reverse engineering has the objective of making any changes to the construction materials of the components considered to be damaged early or abnormally in order to improve the mechanical characteristics and increase overall reliability, with benefit on safety as well as economic. Additional goal is to reduce manufacturing cost of the new product making it competitive in the market.

When facing deadlines, demanding outage schedules, or an emergency breakdown, HFS provides expert services that is designed to minimize downtime and maximize customer satisfaction.

In most cases, spare parts supplied by the customers are not compatible because they are obsolete, in other cases they are out of the production or the procurement times cannot be reconciled with the planning of maintenance and operations.

Reverse engineering is the process of extracting knowledge or design information by using 3D scanning data capturing system and redesign a used/new part of valve maker such as stem, trim, packing and so on. By undergoing reverse engineering, parts are not only be duplicated from the original but also improved and upgraded for better performance.

The construction and precision of the build components is guaranteed attributed to the use of CNC multi-axis machining and turning centers, where the information extracted from the reverse engineering activity and the 3D modelling of the components to be built are perfectly integrated with production CAD/CAM system.



## CUSTOMER SATISFACTION IS OUR PRIORITY!

# REVERSE ENGINEERING FACILITIES

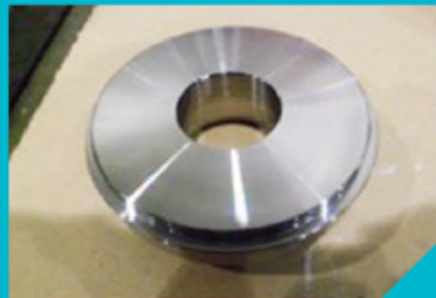
## REVERSE ENGINEERING PRODUCTS

### EXPERIENCES

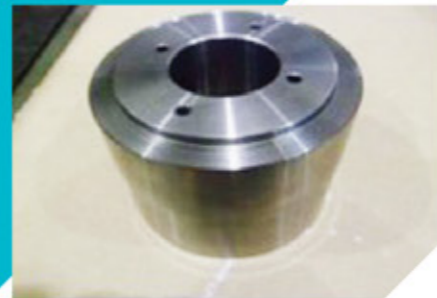
Samchunpo TPP unit 1 ; pressure control valve in soot blowing system  
Samchunpo TPP unit 2 ; ventilation valve and flow control valve  
Phummy unit #3 ; HP feedwater flow control valve



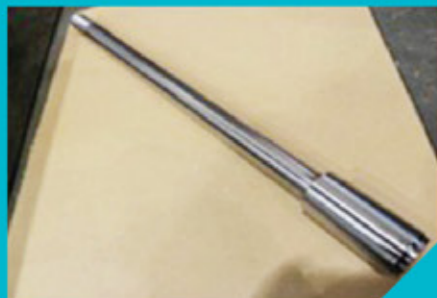
Cage



Seat Ring



Guide



Plug With Stem



Packing



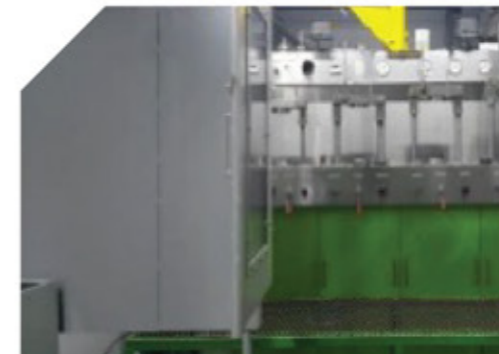
Trim Parts



CNC



Actuator Test



Hydro Test



Lathe

CNC machine, Lathe machine, Milling machine, Drill machine and welding machine are contributed to manufacturing the valve internal parts.

After manufacture, the dimensional check and NDE test are carried out to ensure the quality and standards of finished product are met.

Before packing, the leak test and pre functional tests are carry out if necessary.

# HFS GLOBAL PARTNER



**HFS HEAVY INDUSTRIES  
SDN BHD (MALAYSIA)**

## PRINCIPAL



**S&S Valve Co., Ltd**  
(Korea)  
▶ Control Valves



**Samshin Limited Co., Ltd** (Korea)  
▶ Manual, MOV Valves



**YONGKWANG Flexible Ind. Co., Ltd** (Korea)  
▶ Expansion Bellows & Expansion Joints



**Unicon System Co., Ltd.** (Korea)  
▶ Bypass, Control Valves & Attemperator



**SVC Inc.** (Korea)  
▶ Safety Valve, Steam Trap



**Kumwoo Eng. Co., Ltd**  
(Korea)  
▶ Valve Spare Parts



**AQUASTAR Co., Ltd**  
(Korea)  
▶ Ballast Water Management System (BWMS)



**NRTEC Co., Ltd** (Korea)  
▶ Silencer, Generator, GT Air Intake System



**Seonghwa Industrial Co., Ltd** (Korea)  
▶ Pipe Hangers & Supports



**Samhwa Co., Ltd** (Korea)  
▶ Manufacturing of Pressure Parts



**Eunkwang Bending Co., Ltd.**  
(Korea)  
▶ Rolling, Bending & Welded Tubular



**Flow-Tech Water Treatment Systems**  
▶ Chemical Free Water Treatment and Management System



**Yoobong Corporation**  
▶ Tube Fining and Bending  
▶ Steel Service



**Doosung Cotech**  
▶ CRANE(Fabrication/Installation/Testing)  
▶ BULK HANDLINGMACHINE (Fabrication/Installation/Testing)(Fabrication, Shot Blast and Painting)  
▶ Structural items  
▶ Outfitting items



**Inem Korea**  
▶ Supply of Diaphragm, o-ring & gasket



**Dongkang Metal**  
▶ Manual Valves, Automatic Valves, Forged Steel Valves, Y-Strainer

## PARTNER



**HISE Co., Ltd** (Korea)  
▶ Engineering & Parts Support in Korea Products



**HEAT TECH POWER SOLUTIONS**  
▶ Engineering & Parts support in MENA products Located Abu Dhabi, UAE



**K-TEK International, Inc.**  
▶ Engineering & Parts support in US products Located Portland, OR, US



**Asman Kadir Engineering & Fabrication Sdn Bhd**  
▶ Sales Partner

# CORPORATE STRUCTURE



# OUR CERTIFICATE



**Occupational Health and Safety Management System Certificate**  
BS OHSAS 18001 : 2007



**Quality Management System Certificate**  
ISO 9001 : 2015



**Grade C7**  
CIDB Malaysia  
Perakuan Pendaftaran



**JKKP / DOSH Certification**  
► **Pembaikpulih Bejana Tekanan Tak Berapi (PVR01)**  
► **Pembaikpulih Dandang Stim (SBR01)**  
► **Pembaikpulih Bejana Tekanan Berapi (SBR02)**

# PROJECT HIGHLIGHT

**PROJECT**

► Panglima 720MW CCGT Power Plant Melaka - 2 x HRSG Boiler

**SCOPE**

► Complete Erection of HRSG Pressure & Non Pressure Part, Piping & Supports Installation

**LOCATION** ► Telok Gong, Melaka.

**YEAR** ► Jan 02 - Aug 02

**HOST / OWNER** ► Siemens Power Generation



**PROJECT**

► FPSO Cendo Phase 2

**SCOPE**

► Fabrication, Installation and Testing of Hull / Vessel Piping Systems in Cargo Tanks, Ballast Tanks, Pump Room, Fwd Pump Room and Main Deck  
► Fabrication, Installation and Testing of Topside Piping System

**LOCATION** ► MMHE Pasir Gudang, Johor

**YEAR** ► Dec 11 - May 14

**HOST / OWNER** ► MiSC Berhad / Petrofac (M) Sdn. Bhd.

**DIA-INCH INFO**

Vessel : 85,000 DIA Inch / Topside Piping : 110,000 DIA Inch



**PROJECT**

► Malikai TLP Project

**SCOPE**

► Fabrication and Installation of Structural Columns and Pontoon

**LOCATION** ► MMHE Pasir Gudang, Johor

**YEAR** ► Mar 15 - Jan 16

**HOST / OWNER** ► Sabah Shell Petroleum Co. Ltd. / MISC

**WEIGHT INFO**

SW Column : 1350 MT / South Pontoon : 340 MT



**PROJECT**

► PFLNG Turret

**SCOPE**

► Turret - Structural & Piping Works

**LOCATION** ► MMHE Pasir Gudang, Johor

**YEAR** ► Oct 16 - June 17

**HOST / OWNER** ► SOFEC/ Petronas Carigali

**WEIGHT INFO** ► 2800 MT



# PROJECT HIGHLIGHT

**PROJECT**

► Dan Gote Calm Buoy Project

**SCOPE**

► Structural, Piping and Mechanical Works

**LOCATION** ► MMHE Pasir Gudang, Johor

**YEAR** ► Nov 16 - Feb 18

**HOST / OWNER** ► SOFEC Inc

**WEIGHT INFO** ► 1200 MT



**PROJECT**

► Panglima Power Major Outage Oct 2017 (HRSG)

**SCOPE**

► Conditions Assessment of Complete HRSG & BOP Piping Supply, replacement of Hanger Supports

► Supply of Upgraded HP Desuperheater Spray Control Valve (Final Stage) & Desuperheater Pipe Spool (P91 Material)

**LOCATION** ► Telok Gong, Melaka.

**YEAR** ► Jan 17 - Nov 17

**HOST / OWNER** ► Edra Energy



**PROJECT**

► Malakoff Prai Power Plant - Major Outage Aug 2017 (HRSG)

**SCOPE**

► Auxiliary Boiler Repair & Maintenance Works.

► Engineering, Procurement and Construction of HPHTSH Semi Harps (Header + Tubes) Replacement

► Engineering, Procurement and Construction of HPSH Outlet Pipe Relocation and Replacement Works.

► Supply, Replacement Work of HPSH Bellows

► Engineering, Procurement & Construction of HRSG Flow Corrective Device (Modification to improve HRSG Inlet Flow Profile)

**LOCATION** ► Prai, Penang

**YEAR** ► Nov 16 - Oct 17

**HOST / OWNER** ► Malakoff Power Berhad

# PROJECT HIGHLIGHT

**PROJECT**

► YTL Power Seraya - Cogen 40 Major Outage Jan 18 & Feb 18

**SCOPE**

► Engineering, Procurement and Construction of Condensate Preheater (EC-PR3) Harp Replacement Works Unit 40 (6 Harps in Total)

► Conditions Assessment of Complete HRSG 40 & BOP Piping Supply, Replacement Work of Hanger Supports for Unit 40

► Engineering, Procurement & Construction of HP Economizer #4 & IP Evaporator Tube Replacement Works Unit 40 (261 Tubes in Total)

**LOCATION** ► Jurong Island, Singapore

**YEAR** ► Jan 18 - Feb 18

**HOST / OWNER** ► YTL Corporation



**PROJECT**

► YTL Power Seraya - Cogen 30 Outage Jul 18 & Aug 18

**SCOPE**

► Engineering, Procurement and Construction of Condensate Preheater (EC-PR3) Harp Replacement Works Unit 30 (6 Harps in Total)

► Conditions Assessment of Complete HRSG 30 Supply, Replacement Work of Hanger Supports for Unit 30

► Engineering, Procurement & Construction of HP Economizer#4 & IP Evaporator Tube Replacement Works Unit 30(261 Tubes in Total)

**LOCATION** ► Jurong Island, Singapore

**YEAR** ► Jul 18 - Aug 18

**HOST / OWNER** ► YTL Corporation



# PROJECT HIGHLIGHT

**PROJECT**

▶ Malakoff Prai Power Plant - Minor Outage Nov 18 (HRSG)

**SCOPE**

- ▶ Engineering, Procurement and Replacement of Safety Valve (HPEV119, HPSV191)
- ▶ Boiler Tube Repair & Replacement for Sampling.
- ▶ Conditions Assessment of Complete HRSG & BOP Piping
- ▶ Supply, Replacement Work of Hanger Supports
- ▶ Auxiliary Boiler Repair & Maintenance Works
- ▶ CUI Inspection and Repair

**LOCATION** ▶ Prai, Penang

**YEAR** ▶ Nov 18

**HOST / OWNER** ▶ Malakoff Power Berhad



**PROJECT**

▶ Panglima Power Major Outage Nov 2019 (HRSG)

**SCOPE**

- ▶ Supply, Replacement and Adjustment Works of HRSG Pipe Hanger and Pipe Clamp

**LOCATION** ▶ Telok Gong, Melaka

**YEAR** ▶ Nov 19

**HOST / OWNER** ▶ Edra Energy



**PROJECT**

▶ Malakoff Tanjung Bin Power Plant

**SCOPE**

- ▶ Design, Manufacture and Supply of Boiler Tube Shield

**LOCATION** ▶ Tanjung Bin, Pontian, Johor

**YEAR** ▶ Sep 19

**HOST / OWNER** ▶ Tanjung Bin Power Sdn Bhd.



# PROJECT HIGHLIGHT

**PROJECT**

▶ Malakoff Prai Power Plant - Minor Outage Mar 19 (HRSG)

**SCOPE**

- ▶ Supply, Replacement Work of HTRH Pipe Bellows
- ▶ Boiler Tube Repair & Replacement for Sampling

**LOCATION** ▶ Prai, Penang

**YEAR** ▶ Mar 19

**HOST / OWNER** ▶ Malakoff Power Berhad



**PROJECT**

▶ FSO Sao Vang - External Turret

**SCOPE**

- ▶ Fabrication and Erection of Multi-discipline Works; Structural, Piping and Mechanical

**LOCATION** ▶ MMHE Pasir Gudang, Johor

**YEAR** ▶ May 19 - Mar 20

**HOST / OWNER** ▶ Promor Pte. Ltd. / Malaysia Vietnam Offshore Terminal (MVOT)

**WEIGHT INFO** ▶ 1340 MT



**PROJECT**

▶ FSO Sao Vang - Vessel RLE & Conversion

**SCOPE**

- ▶ Repair Life Extension (RLE) & Conversion of Structural & Piping Works, Forepeak Modification and Turret Integration Works

**LOCATION** ▶ MMHE Pasir Gudang, Johor

**YEAR** ▶ May 19 - Mar 20

**HOST / OWNER** ▶ Promor Pte. Ltd. / Malaysia Vietnam Offshore Terminal (MVOT)

**WEIGHT INFO** ▶ 800 MT



**PROJECT**

▶ Bekok A & B Project

**SCOPE**

- ▶ Structural, Piping & Mechanical (Multidiscipline Package) og 2 nos of WHP Topside, Jacket and Bridge

**LOCATION** ▶ MMHE Pasir Gudang, Johor

**YEAR** ▶ Jan 20 - Jul 20

**HOST / OWNER** ▶ Petronas Carigali



# PROJECT HIGHLIGHT

## PROJECT

- ▶ Malakoff Prai Power Plant - Major Outage Jan 20 (HRPI)

## SCOPE

- ▶ CUI Inspection and Repair for HRSG, BOP and Aux. Boiler
- ▶ Aux Boiler Furnance Refractory Repair
- ▶ Manhole and Platform Installation and Permanent Support to Baffle Plate
- ▶ CRSV 191 Safety Valve Replacement
- ▶ Boiler Tube Repair and sampling
- ▶ Supply and modification for HTRH Pipe Support and Hanger Support Adjustment Work
- ▶ HRSG Blowdown Tank & Aux Boiler Blowdown Tank Internal Recoating
- ▶ Service Air Pipe Replacement
- ▶ To provide fabrication works for intake bar screen for Prai Power Plant
- ▶ Supply, Fabricate and Replace/Install Cooling Water Pump Lines
- ▶ ST & HRSG Thermowell Cutting, Boring & Re-Welding
- ▶ Supply, Fabricate and Replace/Install Fire Fighting Water Lines and Instrument Air Lines
- ▶ HRSG Valve and Piping replacement
- ▶ Supply and Deliver Pipe & Fitting for CUI

**LOCATION** ▶ Prai, Penang

**YEAR** ▶ Jan 20 - Mar 20

**HOST / OWNER** ▶ Malakoff Power Berhad



## PROJECT

- ▶ Panglima Power Sdn Bhd

## SCOPE

- ▶ Supply of HP & RH Desuperheater Spray Control Valve

**LOCATION** ▶ Telok Gong, Melaka

**YEAR** ▶ 2017, 2018, 2020

**HOST / OWNER** ▶ Edra Energy



*"Building the Future  
Restoring the Power"*

**HFS HEAVY INDUSTRIES SDN BHD**