Integrated Process Solutions

Impetus Energy
1252235-K

COMPANY PROFILE

CERTIFIED ISO 9001:2015

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INTRODUCTION

Integrated Process Solutions Sdn Bhd (IPS) was established in 2006 and is the only boutique engineering consultancy providing services in Process, Process Safety, Human Factors and Asset Integrity Management.

Impetus Energy Sdn Bhd (IESB) is a subsidiary of IPS and mainly focuses on Pipeline & Subsea Engineering consultancy services.

IPS consist of more than 35 dedicated experienced personnel, headed by four principal professionals of whom each has more than 30 years of engineering experience in various upstream, midstream and downstream facilities.

VISION

IPS/IESB aims to be the most preferred consultant in Malaysia, being recognized globally, successfully delivering the most challenging projects and achieving utmost levels of satisfaction for our clients.

MISSION

We achieve our vision by:

- **Providing reliable and timely services**
- **Delivering innovative solutions**
- **Continuous improving and learning**
- **Being attentive to customer needs**

BOARD OF DIRECTORS

IR. MOHD RAFAEL SHAMSUDIN

Managing Director

- Chemical engineering graduate of the University Of Louisiana at Lafayette in 1985.
- Registered Professional Engineer with the Board of Engineers, Malaysia (BEM)
- 39 years of experience in engineering management and process design of oil & gas facilities.
- Served a broad business clientele internationally which include national oil companies and major oil & gas operators and operating facilities;
    - Exxonmobil / Talisman Energy / Shell / Petronas Carigali / Newfield / Petrofac / Petronas Kerteh Refinery and Others.

IR. ZURAINI MOHD JALI

Chief Operating Officer

- Mechanical Engineer graduated from Universiti Teknologi Malaysia in 1993.
- Registered Professional Engineer with Board of Engineers Malaysia (BEM)
- 32 years experience in oil and gas industries, locally and regionally
- Previously Managing Director of Pegasus Asia Pacific Sdn Bhd (Subsidiary of Petrofac Engineering Sdn Bhd).

IR. MOHAMED AJMEL HAFIZ JAMALUDIN

Director of Engineering

- Mechanical Engineer graduated from University of Southern California in 1997
- Registered Professional Engineer with Board of Engineers Malaysia (BEM)
- 30 years experience in oil and gas industries, locally and regionally
- Pioneer in Subsea Engineering with Petronas Carigali Sdn Bhd. Later joined Petrofac as a Lead Subsea Engineer.

ENGINEERING TEAM

Ir. MOHD RAFAEL SHAMSUDIN PEng PC

PRINCIPAL PROCESS / PROCESS SAFETY ENGINEER

Ir. Mohd Rafael has 39 years of experience in the petrochemical and oil & gas industry, with a strong background in Process, Process Safety, Material & Corrosion studies and Project Management. He manages the day-to-day operations of the company, manages resources efficiently and effectively to achieve the company objectives.

His experience in Process Safety range from wellhead platforms to FSOs; including QRA, Design HSE, FERA, ESSA, ERRA, DROPPED OBJECT, Safety Workshop (i.e., HAZOP/ HAZID/ SIL/ Constructability Review / ENVID/ Project Risk Assessment), etc.

Well experienced as technical writer including preparing Operating Procedure, Operating Procedure Manual, Commissioning Procedure, Black Start-up, Initial Start-up, Test Run Procedure etc. in offshore (CPP/Wellhead), marine facilities (FPSO/FSO) and onshore operation.

Design experience includes conceptual and detailed designs, design optimization; sizing, rating and specification of process equipment such as pumps, compressors, distillation columns, heat exchangers, control valves, pressure relief valves, vessels, piping, tanks/spheres, etc. Experienced in application of specialized simulation programs such as PIPESIM, HYSYS, HTFS/HTRI, OLGA, ACOL, HYDROCOR, ECE-5, NORSOK, PIPENET etc.

Also experienced in specialized studies such as Noise studies, AIV, FIV, Fire & Gas Mapping, RAM, 3D Thermal Radiation/Plume dispersion studies (using CFD) and any flow related studies utilising CFD.

ENGINEERING TEAM

KAMAL HADANY

PRINCIPAL PROCESS / PROCESS SAFETY ENGINEER

Kamal Hadany is a Chemical Engineering graduate of the University of Missouri, Columbia USA in 1984. He is registered with the Board of Engineers, Malaysia and has 39 years of experience in refining, petrochemicals and onshore/offshore oil and gas industries.

His key qualifications range from safety & risk analysis (HAZOP, HAZID, Constructability Review, HFE and SIL), simulation studies (steady-state, dynamic), facility studies (conceptual, detailed design, debottlenecking), material & corrosion studies, preparation of operating manual as well as other operational and commissioning support.

Design experience includes conceptual and detailed process design (includes process units, offsite, marine facilities, offshore and onshore facilities), equipment layout, sizing, rating and specification of process equipment such as pumps, compressors, distillation columns, heat exchangers, control valves, pressure relieve valves, vessels, piping, tanks/spheres, etc.

Experienced user of simulation programs such as PIPESIM, HYSYS, HTFS/HTRI, OLGA, ACOL, HYDROCOR, ECE-5, NORSOK.

ENGINEERING TEAM

Ir. MOHAMED AJMEL HAFIZ JAMALUDIN

PRINCIPAL SUBSEA ENGINEER / ENGINEERING PROJECT MANAGER

Ir Ajmel Hafiz is a Mechanical Engineering graduate of the University of Southern California, Los Angeles, USA in 1997. He is registered with the Board of Engineers, Malaysia and has 30 years of experience in onshore/offshore oil and gas industries.

Ir Ajmel has extensive oil and gas industry experience throughout the project lifecycle, on assignments throughout Malaysia, North-West Africa, and China. Capabilities include various aspects of development, projects and operations, with emphasis on onshore & shallow water oil and gas, marginal field, deepwater and subsea development. He has been involved in various stages of design such as Cost Engineering, Front-End Loading, Conceptual AND Concept Select, FEED, Detailed Design, Due Diligence, Risk Assessment and Independent Design Assessment covering both green field development and brown field re-development especially for marginal fields, shallow water and deepwater plays.

Ajmel has worked for field operators (Petronas, Husky Oil), equipment supplier (AtlasHall/ OneSubsea) as well as design consultants (Intecsea, Petrofac RNZ), holding various positions such as mechanical engineer, front-end engineer, lead subsea system engineer, project/engineering manager and technical director. He has authored and lead the development of many field development plans, concept selection reports, design basis, field layouts, cost estimations etc. These exposures provide him valuable insights on how different stakeholders and service providers typically position themselves in securing and executing projects.

ENGINEERING TEAM

MANJALINA KAMARUDDIN

ENGINEERING MANAGER

Manjalina is a Chemical Engineering graduate of UiTM. She is registered with the Board of Engineers, Malaysia and has 20 years of experience in the petrochemical/ oil and gas industry, including process design and engineering of onshore and offshore oil and gas projects. Furthermore, she is a certified TUV Rheinland Functional Safety Engineer.

Her experience in process engineering includes flow assurance, hydraulic (steady state and transient/surge) analysis and dynamic simulation studies using OLGA, PIPENET, PIPESIM, and HYSYS software with particular strength in process dynamic simulation.

Her experience in Process Safety range from wellhead platforms to FSOs to Onshore Facilities; including QRA, Design HSE, FERA, ESSA, ERRA, Dropped Object, HAZOP/HAZID/SIL, etc.

She is also experienced in specialized studies such as Noise studies, RAM, 3D Thermal Radiation/Plume dispersion studies (using CFD) and any flow related studies utilising CFD.

ENGINEERING TEAM

AHMAD TASNEEM M NOOR

HEAD OF PROCESS SAFETY ENGINEERING

Tasneem is a Chemical & Process Engineering graduate of UiTM, with special course for Polymer Technology and Processing. He is a registered engineer with the Board of Engineers Malaysia (BEM). He has more than 13 years of extensive experience in Loss Prevention and Formal Safety Assessment Studies.

He has been responsible for the design and development of technical studies to support the world's tier one operators in the Oil & Gas, Environment, Mineral, Metals and Chemical sectors such as PETRONAS, ExxonMobil E&P, EnQuest, PTTEP, BASF, Murphy Oil & Gas, Hibiscus Petroleum (formerly known as Repsol Oil & Gas), Qatar Petroleum, HESS E&P, Shell, and many more.

Experienced in providing engineering support for new (Greenfield) and modifications (Brownfield) projects from pre-Conceptual/pre-FEED phase, Front End Engineering Design (FEED) phase and Detailed Design phase to Engineering, Procurement, Construction and Commissioning (EPCC) phase.

FACILITIES ENGINEERING SUPPORT

- Field Development Plans (FDP)
- Feasibility Studies
- Concept Select
- Front End Engineering Design (FEED)
- Detailed Engineering Design (DED)

PROCESS

- Piping & Instrumentation Diagrams (P&ID)
- Process Simulation (Dynamic / Steady State)
- Line List
- Sizing (Equipment, Piping, Instrument, etc.)
- Relief and Blowdown Study
- Process Safety Time
- Heat and Material Balance
- Cause & Effects Matrix
- Process Safeguarding Memorandum
- Operating Procedure Manual
- Operating Procedure
- Safe Operating Limit & Envelope (SOL/SOE)

SPECIALIZED STUDIES

- Value Engineering
- Flow Assurance (Transient / Steady State)
- Surge Analysis
- Computational Fluid Dynamics (CFD)
- Fire & Gas Mapping Study
- Gas Dispersion & Thermal Radiation Study
- Acoustic / Flow Induced Vibration (AIV/FIV)
- Noise Mapping Study
- Corrosion Studies (CDBM, CMP)
- Reliability, Availability and Maintainability (RAM)
- Carbon Footprint Assessment

PROCESS SAFETY

- HSE Design and Safety Case
- Control of Industrial Major Hazard (CIMAH)/Demonstration Of Safe Operation (DOSO)
- Formal Safety Assessment (FSA) Studies
  - Fire and Explosion Risk Assessment (FERA)
  - Quantitative Risk Assessment (QRA)
  - Building Risk Assessment (BRA) including Facility siting
  - Escape, Evacuation and Rescue Assessment (EERA)
  - Emergency Survivability System Assessment (ESSA)
  - Temporary Refuge Impairment Analysis (TRIA)
  - Smoke & Gas Ingress Analysis (SGIA)
  - Dropped Object Analysis
  - Safety Critical Elements & Performance Standards (SCE & PS)
  - Hazard and Effects Management Process (HEMP) – Bowtie, ALARP Study, Critical Activity, Hazards & Effects Register (HER)
- Loss Prevention Studies
  - Firewater Design including Demand, Hydraulic, Surge.
  - Hazardous Area Classification
  - Safety Layouts and Drawings
  - Safety Equipment Datasheets and Specifications
  - HSE & Fire Protection Philosophies

PROCESS SAFETY

- Safety Workshop
  - Hazard and Operability (HAZOP)
  - Hazard Identification (HAZID)
  - Safety Integrity Level (SIL/IPF) Classification & Verification
  - Health Risk Assessment (HRA)
  - Constructability Review
- Process Safety Information (PSI)

HUMAN FACTORS ENGINEERING (HFE)

- HFE Screening
- HFE Awareness Training
- HFE Implementation Plan
- Valve Criticality Analysis (VCA)
- Safety Critical Task Analysis (SCTA)
- HFE 2D Drawings / 3D Model Review for LQ, CCR & Vendor Packages
- HFE Construction Site Verification

ASSET INTEGRITY

- Asset Register
- Safety Critical Elements & Equipment Criticality Assessment (SCE & ECA)
- Performance Standards (PS)
- Failure Mode & Effects Analysis (FMEA) / Equipment Reliability Strategy (ERS)
- Maintenance Plan (MPlan)
- Bill of Material (BOM)

SUBSEA UMBILICALS, RISERS AND FLOWLINES (SURF)

- Concept Study
  - Subsea Engineering
  - Pipeline Engineering

LIST OF SOFTWARES USED

- **Aspen HYSYS** – Process Simulation
- **DNV SAFETI** – Quantitative Risk Assessment
- **DNV PHAST** – Consequence Modelling (2D)
- **Gexcon FLACS** – 3D Consequence Modelling / CFD
- **Gexcon FRED** – Consequence Modelling
- **BowtieXP** – Bowtie Study
- **PIPENET** – Fluid Flow Analysis / Hydraulic Analysis
- **PHA-Pro** – HAZOP / HAZID / Process Hazard Analysis
- **Exida ExSILentia –** Safety Integrity Level
- **PIPESIM** – Steady-state Flow Assurance
- **OLGA** – Transient Flow Assurance
- **Ansys Fluent** – Computational Fluid Dynamics
- **Kenexis EFFIGY** – Fire & Gas Mapping
- **Detect3D** – Fire & Gas Mapping
- **FLARESIM** – Flare Radiation Study
- **DNV MAROS** – Reliability, Availability and Maintainability (RAM)
- **SoundPLAN –** Noise Mapping Study
- **CADNA-A –** Noise Mapping Study
- **ECE-5 –** Corrosion Analysis
- **Ansys Mechanical** – Finite Element Analysis
- **ABAQUS** – Finite Element Analysis
- **AUTOPIPE** – Pipeline Engineering
- **DNV Stableline** – Pipeline Engineering
- **DNV FATFREE** – Pipeline Engineering
- **OFFPIPE** – Pipeline Engineering
- **ORCAFLEX** – Pipeline Engineering
- **SAGE 3D** – Pipeline Engineering
- **SACS Offshore Structure** – Structural Engineering
- **STAAD** – Structural Engineering
- **USFOS** – Structural Engineering
- **MOSES** – Structural Engineering
- **GEO5** – Geotechnical Engineering

Onshore Facilities

- BED for Glayzer Development Project – Safety Studies
- Gap Analysis Assessment for Process Safety Information (PSI) for WR Grace Kuantan
- FEED for Pilot Plant for Low Carbon Syncrude Production for PRSB - Process Engineering, Formal Safety Assessment, Loss Prevention and Specialized Studies
- FEED & EPCC of Maleic Anhydride (MAN) Refiner & Briquetting Plant for Petronas Chemicals MTBE (Basil Project) – Formal Safety Assessment & Loss Prevention Studies
- FEED for Hydrogen Production Unit (HPU) for PCASB – Formal Safety Assessment & Loss Prevention Studies
- EPCC of Waste-Water Treatment Plant Improvement Project (AQUA) at PCFK – Safety Workshops and HFE
- BED for Bintulu Additional Gas Sales Facilities (BAGSF) Liquid Recovery System – Formal Safety Assessment, Loss Prevention, Safety Workshop and HFE
- EPCC of TCOT Off Gas Reroute to GPP 2/3 at GPK, PGB (TREX) – Formal Safety Assessment, Loss Prevention, Safety Workshop, HFE and Specialized Studies
- FEED for Handling Rich Composition in Feedstock at Gas Processing Santong, Petronas Gas Berhad (CHROME) - HAZOP, HAZID, QRA
- FEED and EPCC for Southern Transmission Improvement and Readiness (STAR) Project– Formal Safety Assessment, Loss Prevention, Safety Workshop, HFE and Specialized Studies
- EPCC for Effluent Management at Source (EMAS) Project – Formal Safety Assessment, Loss Prevention, Asset Integrity Management

Topsides (CPP/Wellhead/Riser)

- BED for Glayzer Redevelopment Project (Safety Studies)
- BED for Irong Cluster (Irong Timur and Berantai East) Gas Development Project (Safety Studies)
- FEED and EPCC of 5 WHPs, 5 Subsea Pipeline and Host Tie-in Works at JDA Block B-17, C-19 and Block B-17-01 Phase 6 Development for CPOC (Safety Studies)
- DED for Pemanis Satellite (PESA) Topside for PTTEP's Sarawak SK309 Development Project (Safety Studies)
- FEED for Sabah and Peninsular Malaysia, Kumang West Development Project (Safety Studies)
- Feasibility Study for SMP-A Topside Crude Processing Bypass Debottlenecking Project (Process Engineering and Safety Engineering Support)
- Design One Build Many (D1BM) Project (HFE Study)
- Restoration of Bekok-C Central Processing Platform Project (Operating Procedure and Operating Procedure Manual)
- East Belumut A Central Processing Platform Project (CFD Study)
- Pegaga Development Project (Surge Analysis)
- EPC for Fixed Offshore Works for Timi Field Development Project (Safety Studies)

Infill

- DED for FDP SK Balingian Oil Temana Redevelopment Project (Safety Studies)
- Basic Engineering Design for Tukau Infill Project (Safety Studies)
- Engineering Services for Samarang Phase 3 Revisit Infill Project (Safety Studies and HFE Study)
- Provision of Detailed Engineering Design Work for NBO H4 Development Project (Safety Studies)
- Provision of South Acis (SASA & SAPA) Facilities Upgrade Project - Phase 2 (Safety Studies)
- PM-3 CAA 2020 Infill Flowline & Workover Campaign Project (Process Engineering and Safety Engineering Support)
- Engineering Services for Sabah and Peninsular Malaysia Projects – ERB West Infill Project (Safety Studies)
- Feasibility Study for Infill and WIM for Sepat EMP Project (Safety Studies)
- Detailed Design for Host Tie-ins at D18MP-A and Infill Drilling at D18JT-B Project (Safety Studies and HFE Study)
- FEED and Detailed Design for F9JT-A Infill Drilling Project (Safety Studies)
- BED for Samarang Redevelopment Phase 4 Project (Safety Studies, Pipeline)

FPSO/FSO

- FEED for FPU Sakarya Gas Field Development Phase 3 Project (HSE Studies)
- Berantai FPSO Project (SIL Study)
- Revalidation Safety Case for FSO Benchamas 2 (Safety Studies)
- Condensate Storing, Offloading Facilities and Services for FPSO Ratu ENRA (Safety Studies and Flow Assurance)
- DED of FPSO and Flowlines for Jitang Field Development Project (Process Engineering, Flow Assurance and Safety Engineering Support)
- EPCIC of Bergading FSO Facility for Full Field Development (FFD) Project at North Malay Basin Project (Process Engineering, Safety Engineering and HFE Study)
- FSO Anjung Kecil (AJK) Early Field Development Project (Corrosion Studies, CFD - H2S Dispersion Study)
- Detailed Design of FPSO Armada Perkasa Project (Process Engineering Support)
- APACHE Balnaves FPSO Project (Material Selection and Corrosion Study)
- TGT FPSO Crude Offloading Project (Surge Analysis Study, CFD and Corrosion Studies)
- Armada Perdana FPSO Crude Offloading Project (Surge Analysis Study)
- FPSO MERO 3 Project (HFE Study)

Living Quarters (LQ)

- Detailed Design Engineering (DDE) Services for Living Quarters (LQ) inclusive of Helideck for Kasawari Gas Development Project (Safety Studies and HFE)
- Life Boat, Galley and Kitchen Modification at Sumandak Selatan SUPG-B Platform for PSCB-SBA Project (Safety Studies)
- EPCIC of FSO Facility for Full Field Development (FFD) Project at North Malay Basin Project (LQ - Safety Studies)

Subsea & Pipeline

- Pipeline Integrity Assessment for PCSB-SKA (3 years contract)
- Conceptual Engineering for Belud East and Menggatal Subsea Fields
- FEED for Umbilical and Subsea structure for QP Idd El-Shargi North Dome (ISND) Phase 5.2 for Qatar Petroleum
- DED for Rigid Pipeline and Pipeline Riser for Bakau Non Associated Gas (NAG) Development Project
- Pipeline EPCC for CPP Bokor Phase 3 Redevelopment Project
- Subsea FEED for Sarawak Shell SK 318 Rosmari Marjoram Field
- RBI Pilot Assessment (Pipeline) for Repsol BP-A Platform, Peninsula Malaysia
- Free Span Assessment for Larak Pipeline
- Pipeline EPCIC for East Egret for Shell Brunei
- Limbayong Deepwater FEED for Subsea7

OUR CLIENTS


PETRONAS
Qatar Petroleum
PETROVIETNAM
PETROBRAS
PTTEP
HALLIBURTON
MURPHY OIL CORPORATION
PERTAMINA
BUMIARMADA
ExxonMobil
VESTIGO
Investigate, Seek, Explore
DIALOG
HIBISCUS Petroleum
Dragon Oil
misc
moving energy
HESS
CPOC
MMC
worley
DELIVERING SUSTAINABLE CHANGE
T.EN
TECHNIP ENERGIES
GRACE
Tuah
REPSOL
AkerSolutions
SYNERGEN OG
safer and connected
da energy
SYNERGY
specialist engineering
MECIP
RNZ
TOYO ENGINEERING
PUSB Engineering
wood.
solaralert
UBF
MTC
Marine Technology Company
ERM
MES
DYNAC
sapura energy
HYPERWAVE
Systems Engineering
E.A. Technique
"the shipping people"
DOMINANT
MAKEEN ENERGY
SV PETROLEUM
İLK CONSTRUCTION
rrie ENERGY

HEALTH AND SAFETY POLICY

IPS Malaysia has established the Health & Safety Policy below as part of its Occupational Health & Safety Management System in accordance with 1SO 45001 requirements. The company has documented and bases its business on the following Health & Safety Policy:

- Providing safe and healthy working conditions for the prevention of work-related injury and ill health;
- Being recognized as an Engineering Consulting Services company that complies with statutory, regulatory requirements, and other applicable requirements related to Occupational Health & Safety;
- Creating awareness and commitment throughout the organization to eliminate hazards and reduce occupational health and safety risks;
- Striving towards continual improvement of the Occupational Health and Safety Management System and its performance; and
- Ensuring workers' participation and consultation in the planning and implementation of Health, and Safety Management systems.

QUALITY POLICY

IPS has an established Quality Policy below as part of its Quality Management System in accordance to ISO 9001 requirements. This Quality Policy shall be communicated throughout the organization.

- To achieve Customer Satisfaction by providing quality and professional services
- To continually improve the effectiveness of the Quality Management System and;
- To comply with client and any other applicable requirements.

CONTACT US

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