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## HOUSTON USA

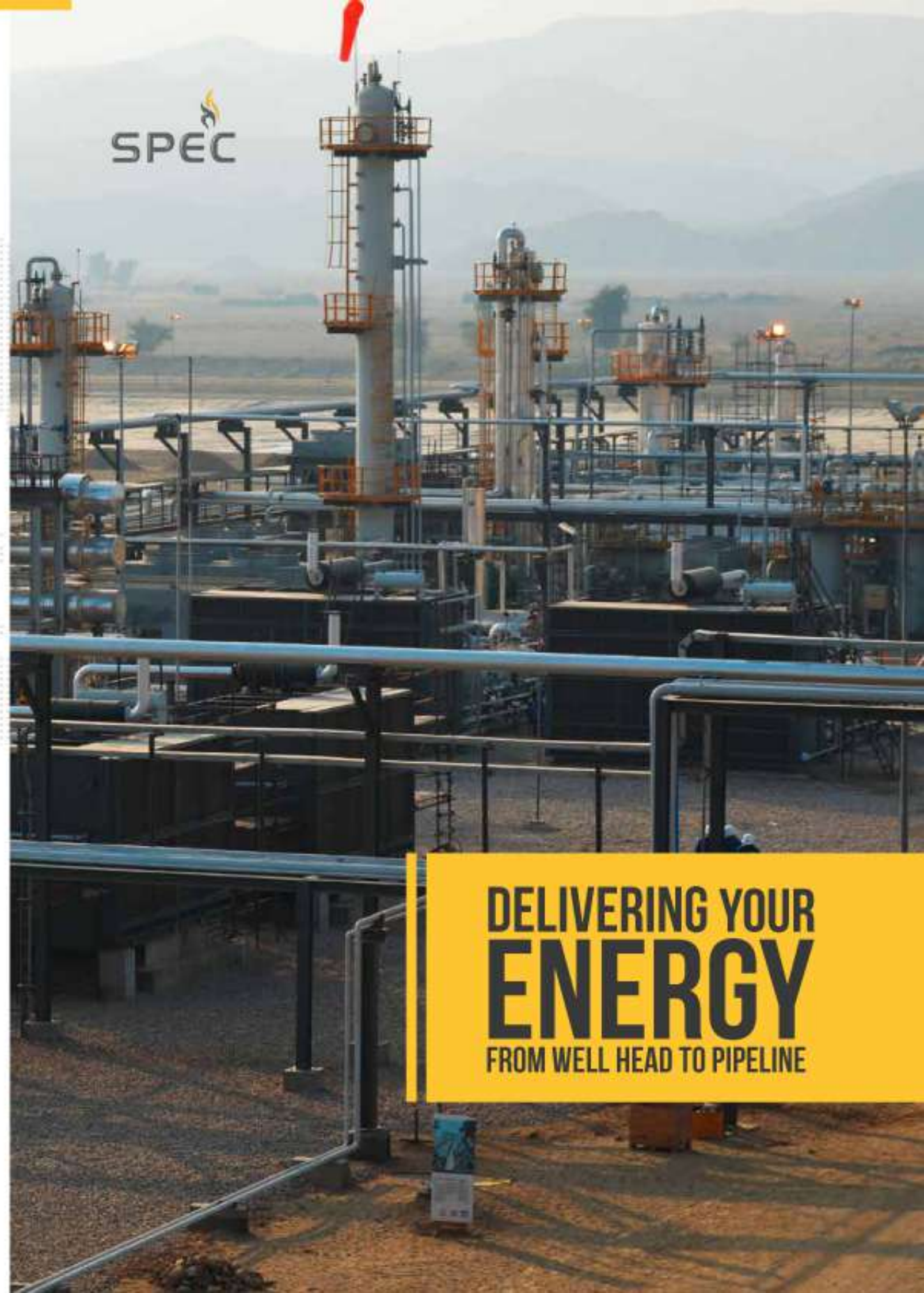
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DELIVERING YOUR  
**ENERGY**  
FROM WELL HEAD TO PIPELINE







THE SECRET OF JOY IN WORK IS CONTAINED IN ONE WORD

**‘EXCELLENCE’**

TO KNOW HOW TO DO SOMETHING WELL IS TO ENJOY IT IF YOU LOVE WHAT YOU ARE DOING YOU WILL BE SUCCESSFUL.

Since its inception in 2000, SPEC has been providing customized solutions from concept to commissioning for a variety of clientele in harsh and challenging terrains.

Within a short period of time and with a strong inclination towards oil and gas sector, it has established itself as a premier single source solutions provider for turnkey projects tailored bespoke as per customer's complete needs. Being vertically integrated, SPEC performs engineering, design, project management, procurement, manufacturing and construction services utilizing in-house expertise for a range of facilities including oil and gas processing, well pad & pipeline construction, power, refineries, petrochemical and water treatment.

SPEC has in place a global resource network of offices and manufacturing facilities employing a multinational and multicultural work team in North & South America, Middle east, africa, CIS and SAARC countries to undertake single point responsibility for integrated turnkey solutions helping customers to deliver their energy from wellhead to pipeline. The company has been supplying and conducting business with major Oil and Gas organizations in North and South America, the Middle East, Asia and CIS countries

Our diversified operations with experienced management teams backing every single project enables us to capitalize on our in-house experience. The presence of engineering, procurement, project management, construction, commissioning and original equipment manufacturing capabilities gives us a strong edge to execute projects within budget and shorter delivery cycles giving our clients assured quality and value every step of the way.



## TURN-KEY PROJECTS EXECUTION - WORLDWIDE



Ain Sifni Oil Field, Iraq



Chacher Gas Field, Pakistan



Shahbazpur Gas Field, Bangladesh



Makat Gas Field, Kazakhstan



Mehar Gas Field, Pakistan



### OUR VISION IS

To become a global energy solution and infrastructure provider who is admired by customers for consistently delivering excellence as a single point source.



### OUR MISSION IS

To deliver excellence in quality and reliability for global energy and infrastructure, while keeping innovation, integrity, safety and sustainability as our core priority in everything we do.



### OUR VALUES ARE

- Quality
- Reliability
- Safety
- Innovation
- Team Work
- Integrity

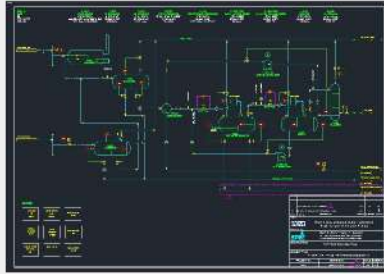


Egbaoma Gas Field, Nigeria

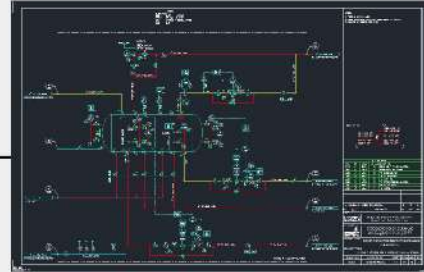


Balgymbeva Gas Field, Kazakhstan





Feasibility & Planning



Basic Engineering



Hazop Study



Manufacturing Inspection  
Testing & Expediting



Procurement



Detailed Engineering



Transportation &  
Clearance



Installation and  
Construction on site



Pre Commissioning,  
Commissioning,  
Performance Test and  
Startup Services



Completion

## VERTICALLY INTEGRATED EXECUTION APPROACH

Being vertically integrated, SPEC performs engineering, design, project management, procurement, manufacturing and construction services utilizing in-house expertise from concept to commissioning of facilities. In the traditional turnkey approach, these are often performed by separate firms giving SPEC a strong edge to execute projects within budget and shorter delivery cycles assuring our clients quality and value in every stage of the project.



# SERVICES



## PROJECT MANAGEMENT

SPEC has developed its capabilities to successfully manage lumpsum turnkey EPC contracts apart from other contractual relationships for the Oil and Gas, Petrochemical, Power and Water treatment industry

Our project management system for budgeting, cost controlling, reporting, project schedules, material management, resource allocation, supplier evaluation etc is designed to fulfill client's demand in an economic and efficient way keeping the targeted budget and delivery in firm control. All simultaneously executed projects are closely monitored by senior management through monthly project reviews to ensure budget and schedule adherence.

Our integrated project management team is led by an experienced project director who assumes the single point responsibility and accountability for the performance of all aspects of the project. The project director is ably supported by an integrated team covering engineering, procurement, construction and commissioning personnel. The integrated team is responsible for project management & controls, plant engineering, packaged equipment engineering, procurement of packaged equipment & balance of plant (BOP), logistics/Insurances/Customs clearance, site organization, sub-contracting strategy & awards, CMEI erection & installation, commissioning & start up, QA/QC and HSE



## PROCUREMENT

SPEC has in place a global network of offices and expediting centers in UAE, USA, Romania and China to achieve procurement goals of its projects within budget and delivery. Our global sourcing network enables us worldwide sourcing options, availability and disseminating market intelligence.

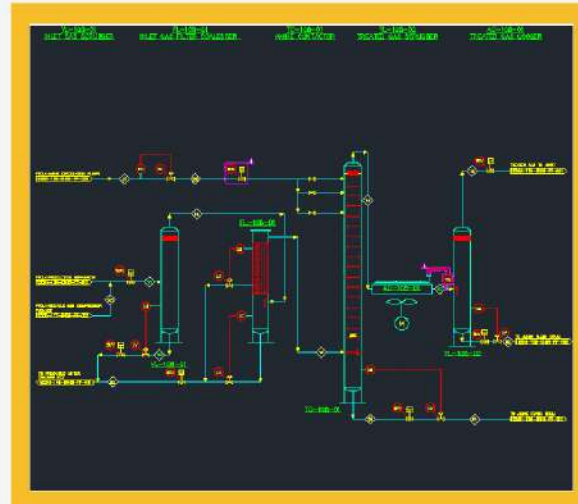
From handling the complexities of global supplier selection for all Project material, expediting, delivering diverse material from distinct locations, complex logistic involvement and receiving at work locations' keeping all in close connection with project schedule is efficiently dealt with by our ERP system, specifically designed for the execution of turnkey projects.

Our procurement procedure ensures strict adherence to quality standards, national and international requirements of legislations, safety, health and environmental issues. Our experienced personnel at diverse locations ensure on time delivery of project equipment and material.



## CONCEPTUAL DESIGN AND FEED STUDIES

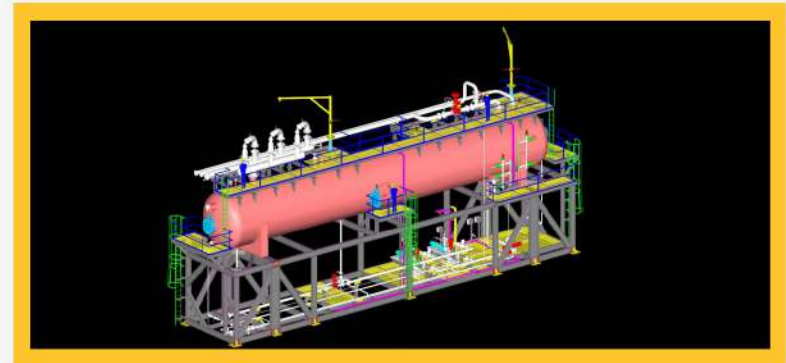
SPEC's feasibility and concept engineering studies aims to provide the most optimum solution for a client's specific needs to help them identify the techno-commercial viability of a development. Our background in oil and gas means we understand the various methods of selecting field development options thus providing clients with a robust screening tool. We undertake these studies for both Greenfield and brownfield developments.



## FRONT END ENGINEERING DESIGN (FEED)

SPEC's inhouse multi discipline engineering resources are able to carry out and develop various studies and philosophies for the following disciplines using both commercially available and inhouse developed software and tools which will act as a platform for the preparation of tender packages and procurement of long lead items (LLIs)

- Process engineering (static and dynamic simulation, PFDs and P&IDs)
  - Mechanical (static and rotating)
  - Instrument engineering (control systems, field instruments and metering)
  - Electrical engineering
  - Metallurgy and Materials engineering
  - Piping engineering  
(including piping layout design, piping stress analysis and materials)
  - Civil engineering
  - Structural engineering
  - Risk, Safety and Environmental engineering
  - Pipeline engineering.
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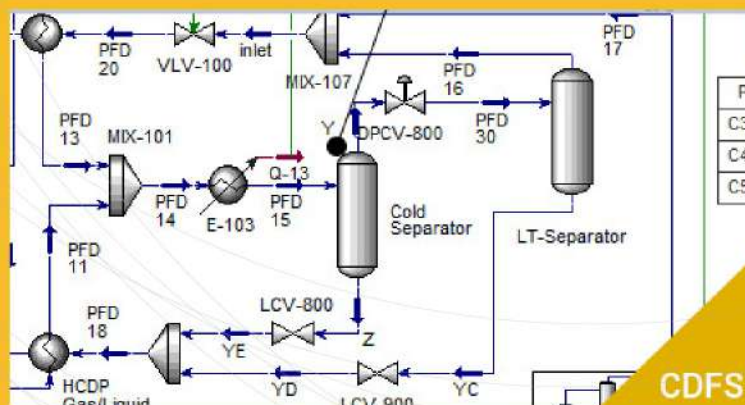
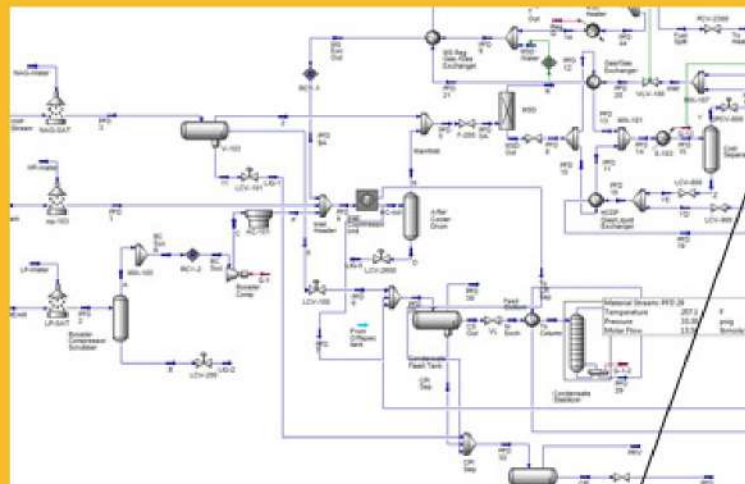


## FEASIBILITY AND CONCEPT STUDIES

SPEC understands the use of modeling tools and software as an indispensable key for developing various development scenarios to satisfy client requirements. We make use of several commercially available, vendor supplied and in-house developed software and tools to model various plant design options and cost estimates at the screening level to reduce risk and improve capital & operational expenditure accuracy.

Every project is unique and specific technical scenarios are developed considering hydrocarbon properties, processing schemes etc. and cost estimates based on plant location, market conditions, country specific factors such as infrastructure, labor productivity, security etc. Various studies include:

- Steady State and Dynamic modeling
- Flare and Depressurizing studies
- Flow Assurance
- Capex and Opex calculations

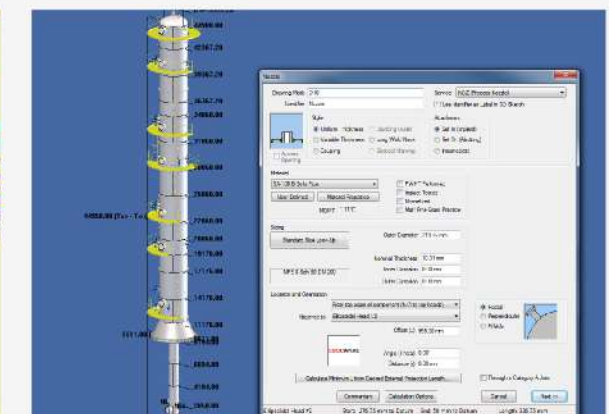


## ENGINEERING

With a combined EPC engineering management experience of over 1000 years, our engineers provide creative solutions and technical skills to meet the most rigorous of standards demanded by the oil & gas industry. This experience involves coordinating all aspects of engineering from system analysis, scheduling and budgeting, design reviews to commissioning and testing.

SPEC's inhouse multi discipline engineering resources can undertake the complete detailed engineering requirements for turnkey Oil and Gas Processing Facilities covering the following disciplines:

- Process engineering (P&IDs approved for construction)
- Mechanical Static (as built datasheets of Pressure Vessels and Heat exchangers)
- Mechanical Rotating (as built datasheets for Pumps and Compressors)
- Piping engineering (Piping and Isometric drawings)
- Instrument engineering (detailed calculations, drawings and datasheets)
- Electrical engineering (detailed calculations, drawings and datasheets)
- Civil and structural engineering (detailed calculations, drawings and datasheets)





# CONSTRUCTION

By combining our multidisciplinary capabilities, local and international resources, we deliver optimal construction solutions for simultaneous management of construction projects. Our innovative execution philosophies and smart approaches enable us to successfully deliver projects keeping high standards of safety and quality

“Construction driven” and “Modularization” are two of our smart approaches which enable timely delivery of projects. The “construction driven” approach is one whereby engineering and procurement deliverables are focused on early award of construction contracts, mobilization at site and maintaining a continuous work front for the site construction activities. Packaged equipment deliveries will be planned sequentially to ensure equipment foundations and related construction resources are ready when the equipment is delivered to site.

The “Modularization” approach helps to minimize site construction activities and construction schedules which are essential when operating in challenging terrains. During the EPC phase, pre-fabrication works of modules, piping spools, structural steel, and equipment items (vessels and tanks, turbines, compressors, pumps etc.) is undertaken at a variety of offsite fabrication shops. This concept is advantageous because all the fabrication and assembly activities take place in a controlled environment. There is greater control on QA/QC aspects of the project, and civil work can occur simultaneously with shop fabrication and assembly, reducing overall project delivery schedule. Offsite fabrication greatly reduces on site safety risks.

## COMMISSIONING AND START UP

From Africa to the Middle East to Asia, SPEC has successful experience pre-commissioning, commissioning and startup operations including guarantee performance tests. The commissioning and start up services are performed in a sequential and controlled manner by competent personnel ensuring safety at all stages. SPEC’s willingness to operate in harsh and remote locations separates it from the competition.



### Services include:

- Preparation of manuals
- Operations training at factory and during site commissioning
- Engineering support service



## ASSET MANAGEMENT

As an integrated solutions provider, SPEC provides asset management solutions combining years of specialist knowledge to maximize asset value utilizing tried and tested processes and procedures. The scope of our solutions covers oil and gas processing plants, gathering and transportation facilities, storage and metering facilities and include the following services:

- Operator Training
- Preparation of Operations and Maintenance Manuals
- Operations Management
- Maintenance Management
- Shutdown, repair and upgrade works
- Inventory Management
- Spare Parts Management
- Plant operations and maintenance





## PROCESS TECHNOLOGIES

SPEC's experience in the application of processing and treatment technologies provides early involvement in projects that use our range of engineering, procurement and construction capabilities and provides customers with single point of accountability for continued reliability.

Combining decades of field based experience and design expertise, SPEC offers both standard and custom designed processing equipment for onshore and offshore applications, helping customers manage their oil, gas, produced water and produced solids expectations. Experts customize designs that carefully balance parameters such as optimal size, performance and economic cost to ensure maximum value for the customer.

Experts in our process technologies division develop, design, manufacture, modularize and integrate the technologies to complement and expand our EPC offerings. We provide standalone solutions complete with piping, valves, instruments, control panels and structural components to complete turnkey facilities. Our services include installation management, pre-commissioning, commissioning, start-up, performance testing, operations & maintenance and after sales support.

## OIL PROCESSING

Our crude oil treatment offerings include multi-phase separation, heater treaters, dehydrators and desalters to ensure maximum recovery of oil delivered to the required specification. Our products include:

- Oil and Water Separation, including Heavy and Sour Oil
- Mechanical Heater Treater
- Desalting



Crude Oil Coalescing Vessel

- Dehydration
- Degassing
- Crude Oil Stabilization
- Crude Oil Storage, Metering and Pumping



Electrostatic Heater Treater



Mechanical Heater Treater



Sour Crude Oil Stripping Tower

## GAS PROCESSING



Glycol Dehydration Unit

Our extensive gas treatment offerings include Gas Compression, Dehydration, Sweetening and Hydrocarbon recovery solutions. These solutions ensure pipeline quality gas removing solid, liquid & gaseous impurities and maintaining optimum heating value. These solutions also ensure valuable liquids recovery.

Our products include:

- Gas Separation
- Gas Compression and Injection
- Gas Dehydration, Dew Pointing and Conditioning
- Sour Gas Processing Involving CO<sub>2</sub> and H<sub>2</sub>S Removal
- NGL/LPG Recovery, Sweetening and Fractionation





Amine Sweetening Plant



Feed Gas Compression Package



Sales Gas Compressor Package



LPG Recovery Unit

## ANCILLARY EQUIPMENT

Other Ancillary offerings include:

- Heat Medium Packages
- Direct/Indirect Heaters
- Raw Water Treatment
- Flare and Vent Systems
- Fire Control and Alarm Systems
- Heat Exchangers
- Pressure Vessels
- Pumps, Compressors and Rotating Equipment
- Process Control and Instrumentation
- Utility Air and Nitrogen



Water Bath Heater Package



LPG Storage Bullets



Fuel Gas Treatment Package



Sales Gas Scrubber Package



Gas - Gas Heat Exchanger

## PRODUCED WATER TREATMENT

Our produced water treatment offerings include hydrocyclones, CPI separators, flotation units etc. to remove suspended solids and bulk oil ensuring water specification for disposal or reinjection.

Our products include:

- Hydrocyclone Separators
- Corrugated Plate Interceptors (CPI)
- Dissolved Air Flotation (DAF)
- API Separators
- Chemical Injection Systems
- Induced Air Flotation (IAF)



Induced Gas Flotation Package



Sour Water Stripping Package



# MANUFACTURING FACILITY

With over 1.5 million ft<sup>2</sup> Global Manufacturing Capacity, SPEC operates global manufacturing facilities which are ASME and ISO certified ensuring the highest quality. All facilities are well equipped and include but not limited to:

- Automatic welding machines
- Overhead cranes
- In-House Plate Rolling
- CNC Machines
- DCS, PLC and MCC packaging, programming and testing facilities
- Other Automated Machinery including cutting, drilling and weld overlay



Automation helps to maintain consistency, avoid rework and quality. SPEC will provide the management, vendor inspections, labor, and equipment required to assemble the modules and pre-fabricated items for delivery to site in a way that will ease the construction process. Depending on project locations, size of project, delivery schedule and client preference, SPEC can manufacture from any of the below facilities and even operate them in parallel and multiple shifts for expeditious delivery.

# HEALTH, SAFETY, ENVIRONMENT AND QUALITY

At SPEC we consider health, safety and the environment an integral part of our operation. In addition to implementing quality procedures like the ISO 9001:2008 quality management procedure, SPEC also holds and operates under the governance of ISO 14001 environmental management systems. The safety of our employees is also ensured under the guidance of and OHSAA 18001 and international occupational health and safety management system. At SPEC maintaining an impeccably healthy and safe environment is non-negotiable.



We create awareness among staff through continued practice and supplemental training exercises. Risk assessment and safety analysis are mandatory and conducted at every work site so that risks can be mitigated and control measures put into place.

SPEC's corporate quality philosophy is to build quality into each structure and system by using experienced craftsmen. The quality of material and workmanship for the proposed facility is assured by the use of SPEC's long-standing and proven procedures for design, engineering, procurement, material control, welding and installation. These standards, in conjunction with project specifications, test instructions, check lists, and tests assure the quality of the final facility. These standards and specifications incorporate the requirements of the governing codes and regulations. Our quality program leads to long-term reliability and lower maintenance costs.

## HOUSTON, USA

- 100 tons lifting capacity
- In-house Rolling Capabilities
- Overhead Cranes
- ASME U, U2, S and R Stamp
- Automatic Welding



## DUBAI, UAE

- 3 bays with 200 ton lifting capacity and 150 mm Cold Rolling
- Automation and Testing Facilities
- ASME U, U2, S and R Stamp
- Automatic Welding
- Located in Jebel Ali Free Zone
- ISO 9001: 2008 Certification



## SHARJAH, UAE

- Located in Hamriyah Free Zone
- 500 meters from Sea Port
- ASME U, S and R Stamp
- Certification



## LAHORE, PAKISTAN

- 10 acres Land
- 120 tons Lifting Capacity
- ASME U S and R Stamp ISO 9001:2008
- ISO 14001 and OHSAS 18001 certified
- In-house Rolling and Automatic Welding Capability



## SHANGHAI, CHINA

- Free Zone
- Located 45 Minutes From Shanghai International Airport

