Subsea

Experience & Capabilities

Enppi

Contents

Enppi at a Glance

Enppi established in 1978 and headquartered in Cairo, Egypt, is an ngineering and EPC Main Contractor providing fully integrated ngineering, procurement, construction supervision and project management services for the petroleum, petrochemicals, energy, power and other industries in Egypt, MENA region & Latin America.

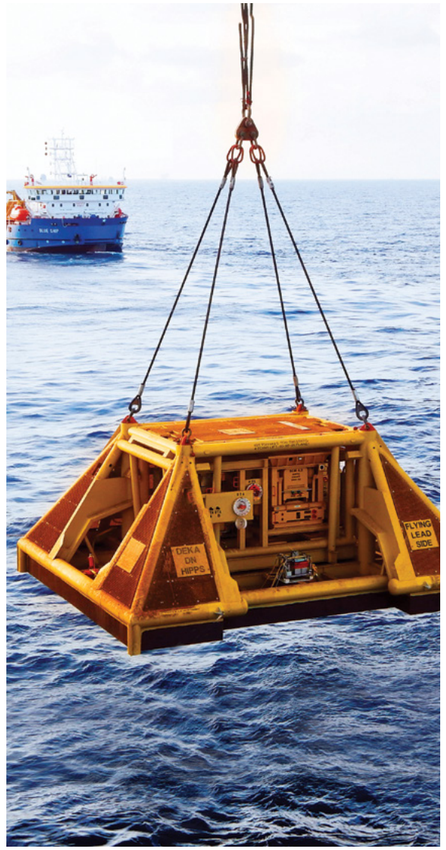
Enppi engineers are known for their invaluable expertise and knowhow, and their proficient work conduct is what makes the company's name a world renowned one. At Enppi, we are committed to retaining our engineering experts and talents by providing them with the work environment and support they require to thrive.

Enppi holds a long and pride-worthy track record of success stories in engineering projects that can be mapped across the globe. Our accumulated experience in engineering solutions is the cornerstone of our global reach, and the Enppi name is now internationally recognizable as a professional, efficient and trusted partner.

Shareholders

- 96.61% — Egyptian General Petroleum Corporation (EGPC)
- 2.12% — Petroleum Projects & Technical Consultations Co. (Petrojet)
- 0.99% — Housing and Social Services Fund for the Petroleum Sector's Employees (HSSFE)
- 0.14% — Egyptian Natural Gas Holding Co. (EGAS)
- 0.07% — Egyptian Petrochemicals Holding Co. (ECHEM)
- 0.07% — Egyptian Natural Gas Co. (GASCO)

Subsea Profile



Starting 2004, Enppi complemented its wide range of activities by the Subsea business field. Since then, its experience in this field has been expanding steadily through the talented manpower who gained practice and knowledge every passing year while utilizing the most up-to-date technologies. Enppi engineers are known for their invaluable expertise and knowhow, and their proficient work conduct is what makes the company's name a world renowned one.

Enppi has executed various benchmark Subsea projects in Egypt, in both shallow and deep water over the last years.

Enppi spectrum of activities for the Subsea starts from Front End Engineering and Design (FEED) to consultancy services. Enppi has built a robust Subsea supply chain of sub-contractors and equipment suppliers over the years so as to assure effective and efficient delivery of the project to the clients' highest expectations, as well as to work closely with clients to implement their requirements and set out the project strategy.

Enppi Subsea business field covers:

FEED/SURF

Enppi Subsea team is working through a multi-disciplinary task force with latest software technology. The task-force provides high-quality customized engineering solutions for both shallow and deep-water fields.

In the FEED/SURF phase of the subsea project life cycle, Enppi Subsea experience covers:

- Overall Field Layout & Architecture
- Field Block Diagrams and Interfaces/Battery Limits
- Flow Assurance & Operation Philosophy
- Hydrate Injection Philosophy
- Well Intervention & Completion Philosophy
- Corrosion Control & Material Selection Philosophy
- System Pre-commissioning & Commissioning Philosophy
- Emergency Shutdown Philosophy
- Engineering & Functional Specifications for Subsea Production Systems
- Engineering & Functional Specifications for Subsea Umbilical & Control Systems
- Engineering & Functional Specifications for Subsea Pipeline & Infield Flowlines
- Risk Assessment & Safety Studies (SIL, HAZID, HAZOP ...etc)
- RAM Studies
- Installation Studies
- Scope of Supply for Subsea Production Systems (SPS)
- SOW for Offshore Installation Contractor
- Procurement for Long Lead Items
- EPCI Tender Package, including Cost Estimate & Planning

Execute Phase

During the execute phase Enppi delivers constructability/operability-based Detailed Engineering tailored to the customer execution strategy.

Enppi provides full procurement service starting from setting out the technical specifications till Site Acceptance Tests. Enppi quality assurance team works with the supply chain of sub-contractors and equipment suppliers to ensure the full implementation of QHSE requirements.

Enppi has the capability to manage fabricators and installation contractors', with full commitment to the contractual agreements and milestones.

In the Execute phase of the subsea project life cycle, Enppi Subsea experience covers:

- Detailed Engineering & Supply of Subsea Production Systems (PLET's/PLEM's/Cluster Manifolds)
- Detailed Engineering & Supply of X-Trees
- Detailed Engineering & Supply of Subsea Distribution Assemblies
- Detailed Engineering & Supply of Umbilical & Control Systems
- Detailed Engineering & Supply of IWOCS
- Detailed Engineering & Supply of Subsea Connection Systems
- Detailed Engineering and Supply of Structures/Foundations for Subsea Production Systems and Control Modules
- Detailed Engineering of Subsea Pipelines & Infield Flowlines
- Procurement Services
- Interface Management
- Fabrication & Installation Management
- Technical Support during offshore installation and Well Completion
- Pre-Commissioning, Commissioning and Start-up Overall Project Management

Enppi utilizes the following applicable codes & standards

ISO

GL

norsok standard

American Petroleum Institute

DNV

AISC American Institute of Steel Construction Founded 1921

Subsea
Experience

Zohr Field Development Pmt Project 2017

Client
Belayim Petroleum Company (Petrobel)

Project Description
Zohr Gas Field is located in the Shorouk Offshore Block, in the East Mediterranean Basin (East Nile Delta) in water depths varying from 1400 m to 1600 m, with gas reserve around 850 BCM (30 TCF).
Zohr Development concept envisages subsea deep water architecture with production directly routed to shore by means of dedicated pipelines. The wells will be controlled via main long distance umbilicals from a new shallow water control platform, the infield umbilicals will be used to divert the control to each well.
The field is developed through 3 phases; the current two phases are including 20 wells connected via rigid infield flowlines to 7 off manifolds which in turn export the production through 3 main trunk lines (1 off 26" and 2 off 30"). The Field is served with 2 off 14" service lines in addition to 2 off 8" MEG injection lines composing a closed loop for effective continuous MEG injections into XTs.

Scope of Services
PMT for Subsea Works:
Consultancy Services; including review of Engineering, Procurement & Construction & Installation Supervision.

WDDM IXB Development Project Engineering Consultancy Services 2017

Client
Burullus gas company

Project Description
The project aims to produce 120 MMSCFD from 2 wells in the first quarter of 2018 and produce 370 million cubic feet of gas per day in the fourth quarter of 2019 from 6 wells through providing engineering services to Burullus Gas company in the concession area of the deep water in West Delta through a consortium between Enppi and Wood.

Scope of Services
Provide technical support & detailed engineering design review.

Sea Fastening Design Of Subsea Meg Distribution Manifolds - Taurus Libra, West Nile Delta
2017

Client
bp

Main contractor
SUBSEA-7

Project Description
Detailed Engineering for the MEG Distribution Manifolds sea fastening.

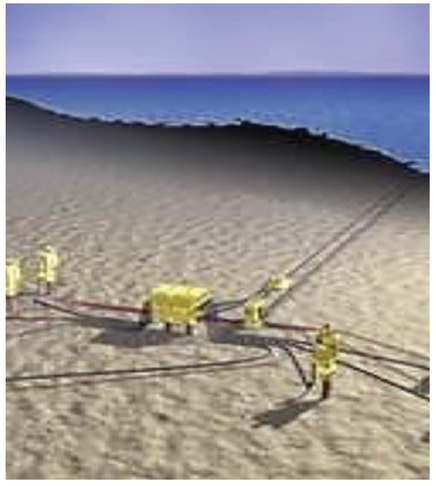
Scope of Services
Subcontract for Engineering Services

West Delta Deep Marine Concession Scarab / Saffron Development Project
2000 - 2003

Client
Burullus Gas Company (Burullus)

Project Description
Development of the deep marine Scarab / Saffron field located 90 km offshore the West Delta Coast to produce 600 MMSCFD of gas. The production is transmitted through two P/L systems to onshore long-distance subsea tieback.

Scope of Services
FEED Design & Detailed Engineering, Procurement, Construction, Commissioning & Start-Up.



Atoll Development Project
2016 – 2018

Client
Pharaonic Petroleum Company (PhPC)

Project Description
Processing the production from Atoll offshore field at the existing West Harbor onshore plant at Port Said with a daily production of 360 MMSCFD of gas and 15,000 BPD of condensate. The Project comprises the installation of new equipment and the modification and development of the existing facilities to accommodate the additional produced quantities.
The project scope also includes laying of a new 6" pipeline with a length of 6 km to deliver the separated condensate from West Harbor plant to El Gamil plant.

Scope of Services
Basic & Detailed Engineering, Procurement Services & Construction Supervision

Techno-Economic Study For Cyprus / Egypt Subsea Gas Transmission Pipeline
2015

Client
Cyprus Hydrocarbons Company (CHC)

Project Description
Techno-Economic Study to assess the valid scenarios for Cyprus subsea gas transmission from Aphrodite Deepwater gas field to Egypt via a new 24”/30” ultra-deep subsea pipeline (in about 1650 m water depth) tied to a steel Catenary Riser from FPSO.

Scope of Services
Techno-Economic Study

SSIV FOR NAQ P1-P2 Joining Subsea Pipelines
2013

Client
Abu Qir Petroleum Company (AQP)

Project Description
SSIV Skid for the 16” subsea pipeline between NAQ P-2 and P-1 platforms

Scope of Services
Detailed Engineering

Denise NW1 Subsea Hot-Tapping Skids
2014

Client
Belayim Petroleum Company (Petrobel)

Project Description
Subsea Hot-Tapping Skid for the 10” subsea pipeline at tie-in with the existing 24” sealine.

Scope of Services
Detailed Engineering and Installation Supervision

DEKA Subsea Field Development Project
2012 / 2014

Client
Belayim Petroleum Company (Petrobel)

Project Description
Subsea tie-back of five new subsea wells (DS6, DN, DNW1, DNNW1, KA) in about 115 m water depth via a new 16”/10” sealines network to the existing D4 PLEM and the existing Temsah 32” Sealine (for KA well), and to the existing 24” sealine (for DNNW1 well). Field layout includes PLEMs, HIPPS modules, subsea spools between all production facilities, control Umbilicals/SUTU’s & flying leads, subsea Hot-Tapping Skids (at tie-in with the existing Temsah 32” and 24” sealines) in addition to subsea foundation and fishing protection structures for all field facilities.

Scope of Services
PMT for Subsea Works including Project Management, Consultancy Services; including review of Engineering, Procurement and Construction Supervision Detailed Engineering of Sealines/Spools & Subsea Hot-Tapping skid and fishing protection structures.

North Bardawil Offshore Field Development Project 2008 / 2009

Client
Belayim Petroleum Company (Petrobel)

Project Description
Subsea tie-back to Barboni Platform via a new 14" subsea pipeline (23 km long) and PLET's/PLEM's/Jumpers system at terminal subsea X-Trees (Zaraf & Assad) in about 330 m water depth, in addition to control Umbilical and SUTU's and the subsea foundation and protection structures for all the field facilities.

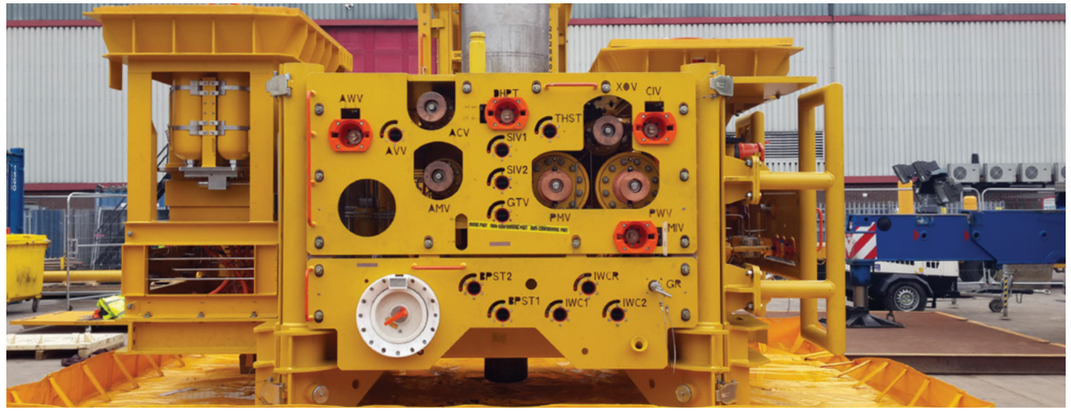
Scope of Services
- Technical Support Services for Subsea Equipment and X-Trees, extending to the installation phase
- Basic & Detailed Engineering for subsea pipeline/spools

Denise-B Subsea Field Development Project 2010 / 2011

Client
Belayim Petroleum Company (Petrobel)

Project Description
Subsea tie-back of three new subsea wells (D4, D-S4, D5) in about 95 m water depth via a 16" sealine (6 km long) to the existing Tuna PLEM, and associated PLEM's/HIPPS and subsea spools at subsea wells and control Umbilicals and SUTU's. This is in addition to subsea foundation and fishing protection structures for all field facilities.

Scope of Services
- Interface Management/Technical Support Services for Subsea Equipment & X-Trees, extending to Installation, Well Completion and Commissioning.
- Detailed Engineering of subsea pipelines/spools



Rosetta Offshore Field Development Project Phase III & Infield Wells 2006 / 2007

Client
Rashid Petroleum Company (Rashpetco)

Project Description
Subsea tie-back to P1 and P2 platforms, comprising 22" & 18" Trunklines and 10" Flowlines in 160 m water depth, in addition to gathering PLEM's and Infield Umbilicals.

Scope of Services
Detailed Engineering for subsea pipelines/spools

West Delta Deep Marine Field Development (Phase IV) 2005 / 2006

Client
Burullus Gas Company (Burullus)

Project Description
Tie-back of 8 additional deepwater wells in about 500600- m water depth to the existing WDDM deepwater infrastructure so as to maintain plateau production from Scarab/Saffron deepwater field, and associated PLEM's / PLET's and SDU & Umbilicals systems.

Scope of Services
Technical Support Services

Offshore Temsah Field Production Restoration 2004

Client
Belayim Petroleum Company (Petrobel)

Project Description
Development of a new subsea field layout for the new subsea pipelines, Manifolds / SSIV's and associated Tie-in Systems required for the re-integration into service of Temsah offshore hub field.

Scope of Services
Detailed Engineering & Construction Supervision

Areas of Expertise

As an Engineering and EPC Main Contractor, Enppi areas of expertise lies in the value chain of its role as an Engineering, Procurement, Project Management & Construction Supervision Contractor.

Engineering

Process Technology

Enppi has considerable experience in the design of oil & gas, onshore/offshore, gas processing, oil refining, and petrochemicals facilities covering:

- Process optimization and selection
- Studies (techno-economic and technical)
- Flow assurance engineering (steady state & dynamic)
- Debottlenecking and revamps
- License evaluation and selection
- Review of basic engineering for others
- Oil & Gas separation
- FEED, conceptual, basic & detailed engineering
- HAZOP, HAZID, QRA, SIL and other safety studies
- Performance analysis and guarantees
- Operating manuals development
- Commissioning and start-up procedures
- Field assistance for construction and start-up

Mechanical Engineering

Enppi has qualified specialists in all aspects of mechanical engineering. The following services are offered to support FEED and detailed design activities or independently as specialized services.

Static equipment design, covering:

- Pressure vessels, heat exchangers, columns, reactors, heating and power boilers and tank design.

Rotating equipment design, covering:

- Compressors, gas and steam turbines, pumps, turbo expanders, HVAC, etc..

Material selection, covering:

- Material selection guides
- Cathodic protection
- Painting

Field assistance for construction and start-up

Solid handling designs, covering:

- Solids Conveying, Transport, Storage and Processing Systems in the fields of Chemical, Petrochemical, Mining and Mineral Processing Industries
- Cranes

HVAC systems design and engineering works, covering:

- Industrial Applications such as control, switchgear, battery, laboratory, warehouses and workshop buildings.
- Administration buildings.

Electrical Engineering

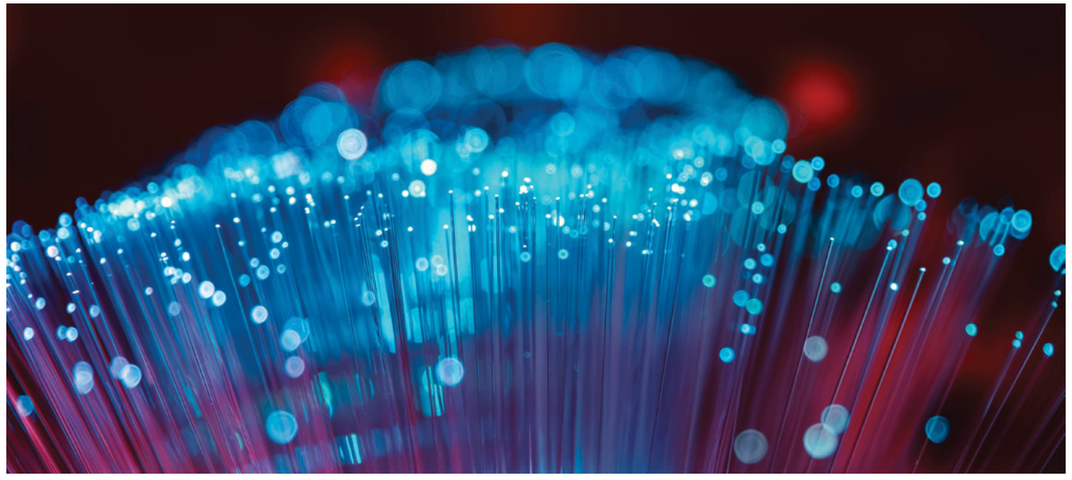
Enppi has a fully experienced team in electrical system design, with wide experience in both onshore & offshore applications; covering :

- Power generation and distribution
- Electrical systems analytical studies
- Relay coordination studies
- Overhead transmission lines design
- UPS systems
- Solar power units
- Plant power distribution & cabling systems
- Lighting systems
- Lightning protection facilities
- Navigational aid systems
- Grounding systems
- Heat tracing systems
- Hazardous Area Classification, Plans & Elevations and Electrical enclosure selection criteria
- Field assistance for construction and start-up.

Instruments & Control and Telecommunications Engineering

The company's competencies in Instrument & Control and Telecommunication Engineering cover:

- Field instruments & Process Measurements.
- Final Control Elements: Control Valve Sizing & Selection, On-Off Valves, Shut Down & Blow Down Valves.
- Process Control Applications (Burner Management System, Boiler Control, Compressor Control, etc..).
- Process Control Systems (DCS, PLC)
- Pneumatic, Hydraulic Controls
- Safety Instrumentes System (SIS)
- High Integrity Pressure Protection System (HIPPS)
- SCADA & Communication Systems
- Pipeline Management System
- Fiscal Metering Systems
- Automatic Tank Gauging
- Oil & Gas Wellhead Control System.
- Tele-communication Systems such as:
  - Private Automatic Branch Exchange (PABX), VoIP
  - Public Address & Alarm System (PA&A)
  - Fiber Optic Cables / System
  - Wireless Systems (Satellite, Microwave, VHF UHF)
  - Security Systems (Closed Circuit Television (CCTV),
  - Access Control System & Intrusion Detection System)
  - Video Conference.
- Field Assistance for Construction and Start-up



Civil / Structural / Architectural Engineering

Enppi possesses considerable design experience in different phases of Civil / Structural / Architectural Engineering design, covering the following activities for plant facilities and other onshore structures:

- General site preparation drawings
- Road and paving drawings
- Building design (architectural / structural detailed drawings)
- Detailed drawings (steel / concrete) and MTO preparation
- Tanks and basins drawings
- Foundation drawings
- General specifications, MRQs & MRPs preparation
- Field assistance for construction and start-up

Offshore Structures Engineering

Enppi offshore structural design capabilities cover the following areas:

- Offshore fixed platforms analysis and design
- Deep & shallow foundation engineering
- Dynamic & fatigue assessments
- Earthquake Analysis
- Nonlinear Analysis
- Finite element Analysis
- Construction support engineering
- Transportation & Installation engineering
- Weight & COG engineering
- Structural Integrity Management
- Ports & Terminals engineering
- Subsea structural engineering
- Specification & Fabrication drawings
- Field assistance for construction and start-up

Piping Engineering

Enppi piping engineering design covers:

- Plot plans and equipment location plans
- Piping general arrangement drawings for the above ground piping
- Orientation drawings of tower, vessel, tank, etc...
- Piping isometrics drawings
- Stress analysis reports for critical lines using Caesar II program
- Piping supports distribution and design
- Piping material specification and supply specification for packages
- MRQs and MRPs preparation for piping bulk and valves
- Underground Composite Drawing
- Detailed design of underground piping systems
- Update of drawings and 3D CADD model to “AS-BUILT” status
- Detailed and block plastic model building
- Field assistance for construction and start-up

Pipeline Engineering

Enppi Pipeline Engineering design is responsible for onshore/ offshore pipelines covers:

- Pipeline design basis
- Pipeline mechanical design
- Route selection
- Planimetry and profile
- Riser/Spools Layout
- Crossing details
- Field assistance for construction and start-up
- Subsea Equipment
- Analysis reports
- Standard details
- Material requisitions and Specifications
- Bidders evaluations

The following section gives detailed description of the various deliverables:

For onshore & offshore pipelines:

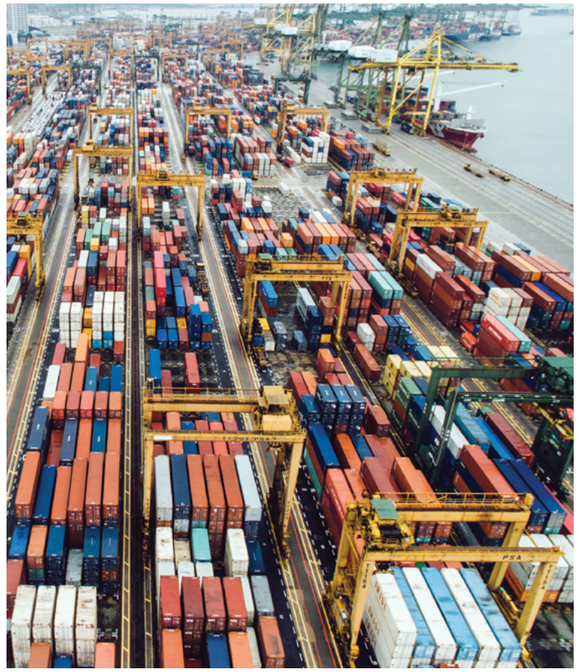
- Pipeline specifications
- Material selection and wall thickness calculations
- Stress analysis studies
- P/L alignment sheets
- Pipeline approach drawings
- Thermal expansion calculations
- Buckling calculations
- Coating and wrapping
- Cathodic protection
- Material take-off
- Material requisitions and purchase orders

For Offshore Pipelines:

- Stability analysis
- P/L Alignment drawings
- Field Layouts
- Deepwater technology
- Free span analysis
- Seabed irregularities analysis
- Upheaval buckling analysis
- Latest buckling analysis
- Installation analysis
- Trenching study
- Pipeline survey, installation and trenching bid packages
- Riser and spool piece design
- Cathodic protection

Procurement

Enppi's strategy in procurement is to provide quality goods and services, at the right time, at the lowest cost, produced and delivered safely. We have the experience, the tools, and the know-how for procurement services by providing integrated, reliable, and cost-efficient supply chain management services to ensure the success of projects.



We have capabilities in:

- Procurement Management
- Purchasing and contracting services
- Purchase orders expediting & subcontracts administrations
- Supplier quality surveillance
- Material Logistics
- Material control on site

Enppi's supply management services leverage today's technologies and logistics' methods to make efficient decisions which streamline the supply management process.

We have a global track record of ensuring timely and accurate material receipt through innovative expedition and quality assurance with vendors to minimize receiving delays and errors. We optimize transportation networks,operating hand-in-hand with global freight forwarders with dedicated assets. We offer the expertise, processes and tool utilization needed to facilitate frequent status updates on all material control information including material quantities required.

Project Management and Control

The design and execution of large scale onshore and offshore projects necessitates the strict adherence to sound management and control practices. In such projects, Enppi provides specialized management, control and quality assurance services covering:

- Contracts/subcontracts preparation and administration
- Overall project management and control
- Front-end planning and detailed project scheduling
- Engineering coordination and control
- Cost control and budget monitoring
- Change management
- Identifying and solving problems hindering project execution
- Technical and economic studies
- Risk management

Construction Management

Enppi provides construction management services as part of the overall project management function covering:

- Construction management and quality assurance/control
- Construction safety management
- Construction planning and control
- Onshore fabrication, installation and load-out supervision
- Offshore installation supervision
- Commissioning and start-up assistance

Software Applications

The latest software programs have been widely used in Enppi to optimize the efficiency of the different disciplines' processes.

Subsea Software Programs

FLEXCOM	USFOS
AUTOPIPE PLUS	SACS
SAGE PROFILE	TEKLA
AGA-PRCI	E3D
OFFPIPE	GRLWEAP
CS8	OLGA
PLAXIS	PIPEPHASE
SMART 3D	PIPESIM
SESAM MARINE	P Spice

Mechanical Engineering Program

Cadna	Pv Elite
Compress	Signal Ffs
E-Tank / ITS	Solid Works Simulation

Process Technology Programs

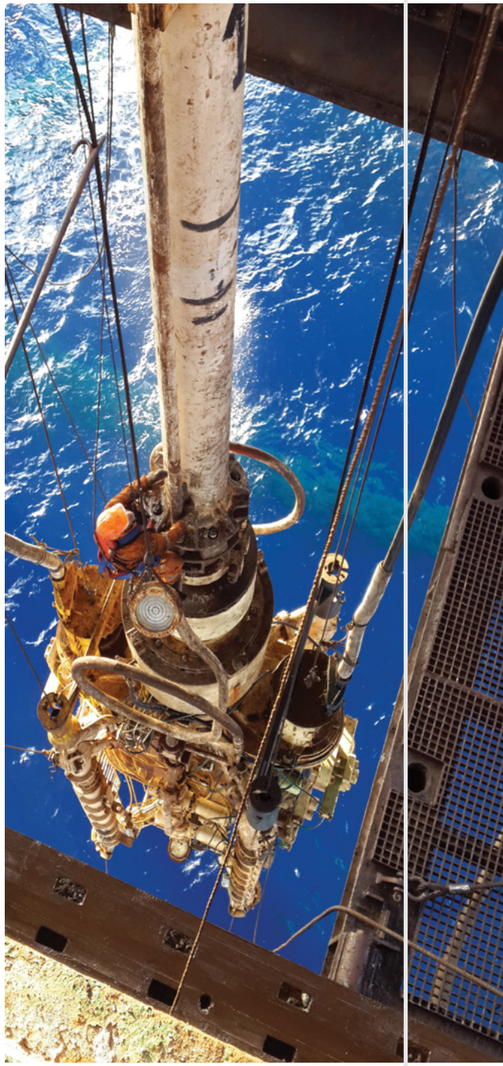
Dnv Phast	Pipeline Stodio
Smart plant P & ID "Intergraph"	Olga
Flare Net	Pipenet
Flare Sim	Pipephase
Fri	Pipesim
Hextran	Process Eng. Suite (Pes)
HTRI	Sil Core
Hysys	Smart Plant P & Id
Network Inplant	Primatech

Civil / Structural / Architectural Engineering Programs

Afes	Pds 3d (Frameworks Plus)
Arch	Safe
Autodesk Revit	sap 2000 V15.0.1
Etabs	Staad Pro

Electrical Engineering Programs

ETAP 12.0.0 Electrical Transient Analyzer Program	Smartplant® 3D Cable Management Interface
PLS-CADD and PLS-Pole	Micro-Station
DIALUX	AutoCAD
PDS	Electrical Load Analysis (ELA)
PDMS	Oracle and Electrical Cable Sizing



Instrumentation, Control and Telecommunication Engineering

Aveva Instrumentation	Smart Plant 3D
Aveva (PDMS)	PDS 3D Model
Aveva Cable Design	CONVAL
Smart Plant Instrumentation (Intools)	INSTRUCALC

Projects Control Programs

Planning Division	Cost Division
Primavera P6 Team member / Collaborator	The Decision Tools Suite Professional @ Risk
Primavera Project Management	Comfar Iii Expert
Primavera Risk Analysis	
Risky Project Professional	

Procurement Programs

Site Material Management System	Vendor E-registration

Pipeline Programs

OFFPIPE (Ver. 2.07), Non-linear finite element method for offshore installation analysis for Pipelines, Risers and Cables	AUTOPIPE-PLUS (Ver 8.06), stress analysis software
SAGE PROFILE (Ver 6.4)	AGA/PRCI (Ver 3.0)

Plant Design & Piping Programs

Aga, Prci	Offpipe
Autodesk Navisworks Simulats	Orthogen
Autopip	PDMS
Aveva Area Based Automatic Drawing Production	PDS 3D
Aveva Final Designer	Sage Profile
Aveva Laser Model Interface	Sewer Cad
Aveva Multi Discipline Supports	Smart Plant 3D
Aveva Pdms	Smart Plant Review –Api
Aveva Review	Smart Plant Review-Photo Realism
Caesar II	Smart Plant Review- Simulation &Visual Effects
Isogen	Smart Plant Sketch
Lmi	Smart, Plant Review
Microstation / J	Vpe Workbench

QEHS Management System

In line with our commitment to continuous growth and sustainable development for the future, Enppi works in the best possible manner to balance Quality, Environment, Energy and Health & Safety (QEHS) considerations into our daily business decisions and operations.

Enppi achieved certification to the revised standard ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018, ISO 50001:2018 for QEHS management systems and also implements API Spec Q1 for quality management system in petroleum, petrochemicals and natural gas industries.

All our operations are covered by ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018, ISO 50001:2018, API **Spec** Q1.

Quality Management System (QMS)

In compliance with the needs defined by the international codes and standards and in order to achieve a competitive edge in the global oil and gas sector, Enppi moves towards expanding alliances with its customers to continually boost productivity and keep our projects on-schedule and within budget aiming to achieve customer satisfaction.

Our applied Quality Management Systems provide strict controls, monitor work, track projects and streamline procurement and materials management activity.

The acquisition of globally acknowledged certification/accreditation is a crucial step toward continual improvement for achieving customer satisfaction through providing high quality services with time commitment and at competitive cost.

It is worth mentioning that Enppi has established a quality management system certified to ISO 9001 since 1995. In 2014, Enppi has implemented API spec Q1 of the American Petroleum Institute as sector specific certification for Quality Management System for oil and gas companies to become one of the leading companies in the world to implement these international standards.

- For every project the company executes, QMS covers the following:
- Issuing Project Quality Plan
- Developing Project KPIs
- QMS auditing

Enppi takes an additional responsibility in encouraging customers, suppliers and contractors to consider the QMS requirements in their activities. Also, Enppi offers a wide range of QMS consultation and training services related to:

- ISO 9001 requirements
- Quality management system auditing
- API spec. Q1 requirements
- Self-assessment
- Documentation management

Environmental Management System (EMS)

As a part of Enppi's contribution towards sustainable development, Enppi has established, implemented and maintained an environmental management system as per ISO 14001. The system objectives are compliance with all applicable environmental legal and other requirements, minimizing pollution and conservation of resources. For every project the company executes, the EMS covers the following:

- Establishment and implementation of environmental - policy and objectives
- Aspects/impacts analysis
- Identification of legal and other requirements
- Development and implementation of environmental - management plans
- Emergency preparedness and response
- Environmental management system auditing

Enppi encourages customers, suppliers and contractors to consider the environmental impacts of their activities, mainly through one or more of the following actions:

- Organizing and conducting awareness sessions / courses
- Requesting suppliers and contractors to declare their environmental policies & commitment to environmental protection
- Following up supplier/contractor implementation of environmental management systems
- Working with customers to design environmentally friendly projects

Enppi also has wide experience in EMS related services as awareness and training, environmental management systems auditing and environmental performance evaluation.

Health & Safety Management System (HSMS)

Enppi recognizes the importance of protecting the health and safety of its employees, customers, suppliers and contractors personnel within work premises over which it has control. Enppi implements and continually improves a health and safety management system in accordance with ISO 45001 to achieve improvement in the overall company health and safety performance, including prevention of injury and ill health. For every project the company executes, HSMS covers the following:

- Establishment and implementation of Health & Safety policy and objectives
- Provision of safe working environment
- Hazards identification
- Risk assessment
- Implementation of necessary control measures to ensure that risks are reduced as low as reasonably practicable
- Identification and compliance with applicable Health & Safety legal and other requirements
- Development and implementation of Health & Safety management plans
- Emergency preparedness and response
- Encouragement of customers, suppliers and contractors to consider Health & Safety requirement in their activities
- HSMS auditing

Related services provided by Enppi can be summarized as follows:

- Design of fire protection systems
- Review plot plans (layout with respect to safety distance and prevailing wind)
- Quantitative risk analysis using "PHAST Software / Fault Tree Analysis and Event Tree Analysis"
- Qualitative risk analysis by HAZOP review, FMEA technique
- Perform safety audits
- Provide training courses related to health and safety:
  - ISO 45001 requirements
  - Loss prevention
  - HAZOP (basic and advanced)
  - Risk analysis techniques
  - Fire protection systems
  - Hazardous area classification
  - Detection and alarm systems
- Preparation of Safety case studies

Energy Management System (EnMS)

In terms of Enppi role as a leader in the field of projects in the region and in order to keep pace with global and national trends for energy efficiency improvement, Enppi has developed, implemented and maintained EnMS as per the international standard ISO 50001 since 2012 and became the first company in the sector acquiring an accredited ISO 50001 certificate.

Enppi EnMS services includes

1- Establishing energy management systems.
2- Conducting Energy Reviews.
3- Determining:
  - Energy baseline, Energy targets and action plans.
  - Energy performance indicator.
4- Energy studies including definition/prioritization of opportunities for energy efficiency improvement.
5- Designing and procurement of energy efficient products and energy management system solutions.
6- Conducting training energy courses and workshops.
7- Conducting Energy Audits.

CERTIFICATES

Enppi Headquarters


LRQA
Certificate of Approval
This is to certify that the Management System of:
Engineering for the Petroleum & Process Industries (ENPPI)
has been approved by LRQA to the following standards:
ISO 14001:2015


National Quality Institute
شهادة
يشهد المعهد القومي للجودة أن
الشركة الهندسية للصناعات البترولية والكيماوية (أنبي)
الكائنة في ١ شارع أحمد الزمر - مدينة نصر - القاهرة
تم إقرار صلاحيتها للتدريب وذلك في مجالات
• نظام إدارة البيئة ISO 14001:2015
• نظام إدارة الجودة ISO 9001:2015
• نظام إدارة الطاقة ISO 50001:2018
• نظام إدارة السلامة والصحة المهنية ISO 45001:2018
الشهادة سارية لمدة ثلاث سنوات من تاريخ الإصدار وتجدد سنويا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Certificate of Approval
This is to certify that the Management System of:
Engineering for the Petroleum & Process Industries (ENPPI)
has been approved by LRQA to the following standards:
ISO 9001:2015


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Enppi / KSA

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Kingdom of Saudi Arabia

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Al Khobar - Sebaay Towers – El Khobar- Saudi Arabia (KSA) Regional Branch, El Khobar, Saudi Arabia

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ISO 14001:2015

Approval number(s): ISO 14001 – 0056422-001

This certificate forms part of the approval identified by approval number: 0056422

The scope of this approval is applicable to:

Project Management, Engineering, Procurement and Construction Management Services for the Petroleum, Process and General Industries

Luis Cunha

Area Operations Manager - North Asia & SHMEA

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Approval number(s): ISO 45001 – 0056424-001

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This certificate forms part of the approval identified by approval number: 0056425

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License Numbers (CN-4799051) and (CN-1082939)

has been approved by LRQA to the following standards:

ISO 14001:2015

Approval number(s): ISO 14001 – 0056422-003

This certificate forms part of the approval identified by approval number: 0056422

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