Introduction
ENPPI at a Glance

Engineering for the Petroleum & Process Industries (ENPPI) was established on January 15th, 1978 and is currently working under Egyptian Investment Law 8 for 1997, with a paid capital of 220 MM US$. The Egyptian General Petroleum Corporation (EGPC) is the principal shareholder owning 97% of the total shares of ENPPI. ENPPI average revenue during the last 5 years ranged from 500 to 800 Million US$.

ENPPI provides fully integrated engineering, procurement, construction supervision, and project management services for the petroleum, petrochemicals, power, and other related industries in Egypt, MENA region and worldwide.

ENPPI is recognized as a major engineering, EPC main contractor, and management contractor, with a proven record of accomplishments for both onshore and offshore projects in oil and gas, refining, petrochemical and general industry projects.

The company organization is structured to provide the expertise required for the efficient coordination of all phases of work starting from project development studies, to completed turnkey facilities. The company applies state of the art technology and know-how based on worldwide sources including operating companies, international engineering firms and technology licensors. ENPPI copes with international Codes and Standards such as ASME, ANSI, API, ASTM, IEC, etc...


ENPPI has established successful business relationships with international business partners through executing projects as an EPC Main Contractor in 12 countries for BP, Shell, BG, PDVSA, Saudi Aramco, KJO, KOC, QP, AGIP, KNPC, Total and other major partners.
ENPPI Role
ENPPI provides its specialized services in all possible contractual roles. This allows a flexible approach to project execution in accordance to projects nature. The typical contractual roles for ENPPI are:

**Design & Build Contractor**

- **Main Contractor**
  As a Main Contractor, ENPPI assumes full project responsibility for engineering, procurement, construction supervision, and project management, performing all tasks from initial planning studies to commissioning of turnkey facilities.

- **Joint Venture Partner / Consortium**
  ENPPI can enter into joint venture associations with national and/or international firms to design and build projects on turnkey basis.

**Professional Services Contractor**

- **Engineering Contractor**
  ENPPI performs any combination of the following activities: studies, basic and detailed engineering.

- **Project Management Contractor**
  ENPPI performs Project Management, including construction management and supervision, on behalf of the client and manages the work of other contractors employed on the project.

- **Subcontractor**
  Contractors with major contracts can utilize ENPPI in the role of subcontractor to provide any of the Professional Services described.
Industries Served
Industries Served

ENPPI expertise has been applied to a wide range of upstream/downstream onshore oil and gas projects as well as upstream offshore projects including oil and gas production facilities, onshore/offshore pipelines, boosting, pumping and compression stations for oil and gas, oil refining, gas processing, petrochemicals, terminal & storage facilities including Offsite and utilities.

The company also provides Health, Safety, and Environmental Services for most projects executed in various fields. The increasing awareness of environmental issues in Egypt and long-standing necessity of safety measures in petroleum installation by virtue of industry nature triggered ENPPI to enhance Health, Safety, and Environmental factors in existing and new projects. This strategy was translated in executing environmentally friendly and safe projects.

ENPPI expertise was to a wide range of onshore and offshore oil & gas projects, including:

**Oil & Gas Production**

Onshore and Offshore production, processing and treatment facilities, onshore receiving terminals, and onshore oil related processing applications, pumping and boosting stations, as well as compression stations, structures and floating production facilities. The Offshore production includes jacket & deck, topside facilities, sub-sea pipelines and loading terminals.

**Oil Refining**

Crude distillation, vapor recovery, hydrodesulphurization, hydro-cracking, vacuum distillation, isomerization, lube oil production and blending.

**Gas Processing**

Condensate recovery, LPG and NGL production, gas treatment, sweetening and drying, C₂/C₃ production, conditioning and LNG projects

**Petrochemicals & Chemicals**

PVC, VCM, chlorine, ethylene, polyethylene, polypropylene, polystyrene, LAB, styrene & methanol
**Pipelines**
Gas/crude/products/multi-products, onshore/offshore, pigging systems, boosting and pumping stations, compression stations, SCADA and control systems.

**Offsite & Utilities**
Power generation and distribution, water treatment, waste water treatment, tank farms, water desalination, instrument air systems, flare systems, steam generation, lighting distribution, earthing and lightning protection, telecommunications and data networks, fire detection and protection systems and computer networks (LANs).

**General Infrastructure**
Workshops, laboratory buildings, housing complexes, offices and administration buildings, control rooms and electrical substation building, roads and site development.
Scope of Work
&
Areas of Expertise
Scope of Services

ENPPI strategy is to provide diversified services to clients in the global marketplace with proven safety records and at a competitive price. ENPPI structure and access to local resources add a competitive advantage. Through cooperation with multinational companies, we are able to maintain international standard of quality, cost effectiveness, and offer the highest level of services available.

ENPPI is continually expanding its field of activities and diversifying its services in response to the ever-changing demands of the industry. It initially provided design and management services to companies for development in the downstream sector of the petroleum industry. Over the past 20 years, its scope has widened to execute turnkey projects as EPC main contractor covering the upstream and downstream development.

ENPPI provides a full range of services in Engineering, Procurement, Construction Supervision, and Project Management. In addition, specialized services can be provided as needed, including:

Feasibility/Techno-economic Studies

- Process design
- Process and technology analysis, evaluation and selection
- Debottlenecking studies
- Plant revamp studies
- Environmental studies
- Licensor evaluation & selection
- Preparation of process data books
FEED / Basic Engineering Services

- Process description and PFDs
- Process plant optimization
- Plant operation, control and shutdown Philosophies
- Equipment sizing & specifications
- P&IDs, plot plans and layouts
- Pipeline route and layout drawings
- Instrumentation lists and data sheets
- Environmental criteria
- General specifications and codes
- HSE activities

Detailed Engineering Services

- Process, utilities and off-sites detailed design
- Instrument and control systems
- Material specifications and requisitions
- Piping layouts, and detailed design
- Pipeline alignment sheets
- Electrical systems detailed design
- Site development, foundations, structures and buildings detailed design

Project Management & Control Services

- Project procedures and execution plan
- Project QEHS plans
- Project management activities covering engineering, Procurement and construction Supervision phases
- Progress evaluation and reporting
- Planning and scheduling
- Cost engineering, budgeting and estimating
- Suppliers drawings management and control
- Project accounting
- Prequalification & selection of Main Contractors, Suppliers and Construction firms
- Basic and detailed engineering review (on behalf of Client)
- Construction supervision
Procurement Services
- Purchasing including materials requisitioning, bid evaluation and awarding
- Expediting
- Supplier quality surveillance
- Traffic and logistics
- Material management at site

Construction Management
- Construction contracting
- Construction planning, scheduling and monitoring
- Construction resources allocation
- Constructability studies
- Construction supervision
- Field technical support
- Project provisional and final acceptance procedure
- Health, safety and environmental control

Equipment Fabrication & Coordination

ENPPI performs complete management and coordination of the local fabrication function, starting from detailed fabrication drawings preparation to subcontracting and managing the fabrication activities at subcontractors’ workshops for the following:

- Pressure vessels, columns, shell/tube heat exchangers
- Dehydration packages
- Flare systems
- Chemical injection packages
- Separator package
- Field erected Tanks
- Platform erection
E&I Installation Works

- Installation detailed drawings preparation
- Material take off (M.T.O.)
- Installation and hook-up of the following:
  - Power generation and distribution systems (low and medium size)
  - Medium voltage and low voltage systems
  - Lighting distribution systems
  - Earthing and lightning protection systems
  - Measuring, instrumentation and control systems
  - Tele-communication and data networks systems
  - Monitoring, alarm and operating systems
  - Fire protection systems
  - Automation systems
  - Building management systems
  - PLC, PC and SCADA systems
  - Electrical heat tracing systems
- Mechanical completion, calibration, commissioning and start-up services
- Marked-up and as-built drawings

Commissioning, Start-up

- Operating procedures and manuals
- Plant performance tests
- Training of operation personnel
- Assistance in plant operation and maintenance
Areas of Expertise
The following presents a detailed description of the major areas of expertise:

Process Technology
ENPPI has considerable experience in the design of oil and gas, onshore/offshore production facilities, gas processing and oil refining with relevant expertise in the areas of:

• Process optimization and selection
• Studies (techno economic & technical)
• Debottlenecking and revamps
• License evaluation and selection
• Review of basic engineering for others
• Oil and gas separation
• FEED, conceptual, basic and detailed engineering
• HAZOP, HAZID, QRA, SIL
• Performance analysis and guarantees
• Operating manuals development
• Commissioning and start-up procedures

Mechanical Engineering
ENPPI employs qualified specialists in all aspects of mechanical engineering. The following services are offered to support detailed design activities or independently as specialized services;

• Static equipment design covering:
  o Pressure vessels, heat exchangers, columns, reactors, cranes, heating and power boilers and tank design
  o Rotating equipment covers compressors, gas and steam turbines, pumps, turbo expanders, HVAC, Field erected Tanks ...etc.

• Material selection covering:
  o Material selection guides
  o Cathodic protection
  o Paintings
Electrical Engineering
ENPPI has expertise and capabilities in the development of studies, front-end engineering, basic engineering, detailed engineering and the technical part of purchasing up to Factory Acceptance Test (FAT) for:

- Power generation and distribution for low and medium voltage systems
- Electrical systems analytical studies
- Navigational aid systems
- Relay coordination studies
- Lighting systems
- Overhead transmission lines systems
- Solar power unit
- UPS systems
- Grounding systems
- Lightning protection facilities
- Heat tracing facilities

Instrument & Control and Telecommunication Engineering
ENPPI Instrument & Control and Telecommunication Engineering covers:

- Field instrumentation
- Process controls system such as: pneumatic, hydraulic, electronic & microprocessor (PLC & DCS), etc...
- Safety related systems; ESD, F&G and HIPPS, etc...
- SCADA systems such as fiber optic, microwave, satellite, etc...
- Custody transfer metering systems
- Pipeline management systems
- Automatic tank gauging systems
- Oil & Gas wellhead control systems
- Tele-communication systems e.g.:
  - Private automatic branch exchange (PABX)
  - Public address & alarm system (PA & A)
  - Wireless systems (Satellite, Microwave, VHF/OHF)
  - Security systems
  - Video conference and voting systems
  - Final control elements such as control valves, on-off valves, safety relief valves, etc..
Civil/Structural /Architectural Engineering

ENPPI possesses considerable design experience in different phases of Civil/Structural/Architectural works, which covers the following activities for plant facilities and offshore structures:

• General specifications
• General site preparation drawings
• Road and paving drawings
• Building design (architectural drawings & detailed drawings)
• Detailed drawings (steel/concrete) & MTO preparation
• Tanks and basins drawings
• Foundation drawings
• MRQs & MRPs preparation

Offshore Engineering

Offshore structural design capabilities cover the following areas:

• Offshore platforms (jackets & decks)
• Subsea facilities
• Static in-place structural analysis
• Pile analysis
• Dynamic & fatigue analysis
• Earthquake analysis
• Construction support analysis
• Cathodic protection design
• Weight control engineering
• Platforms prequalification
• Specifications, construction drawings & MTO
Piping Engineering

The principal documentation generated by Piping Engineering is:

• Plot plans & equipment location plans
• Piping general arrangement drawings for the above ground piping
• Tower, vessel, tank, etc...
• Orientation drawings
• Isometrics for all lines
• Stress analysis reports for critical lines using the Caesar II program & pipe support design
• Piping material specification, supply specification for packages
• MRQs and MRPs preparation
• Bulk material quantifying
• Underground piping design for all U/G piping systems
• Updating of drawings and 3D CADD model to “AS- BUILT” status
• Field assistance for construction and start-up
• Detailed & block plastic model building

Pipeline Engineering

ENPPI employs qualified specialists in its Pipeline Engineering Department to be responsible for all aspects of onshore/offshore pipeline engineering.

The main pipeline engineering activities cover the following:

• Pipeline design basis and feasibility studies
• Pipeline route selection and survey
• Pipeline hydraulic design including two phase flow analysis
• Complete mechanical design of pipelines
The following section gives detailed description of the above services:

**For Onshore & Offshore Pipelines:**

- Pipeline specifications
- Material selection and wall thickness calculations
- Stress analysis studies
- P/L alignment drawings
- Buoyancy calculations
- Anchor blocks calculations
- Thermal expansion calculations
- Buckling calculations
- Coating and wrapping
- Cathodic protection
- Material take off
- Material requisitions including material specifications and purchase orders preparation

**For Offshore Pipelines:**

- Free span analysis
- Seabed irregularities analysis
- Upheaval buckling analysis
- Installation analysis
- Trenching study
- Pipeline survey, installation and trenching bid packages
- Riser and spool piece design

**Project Management**

Project management is responsible for directing and coordinating human and material resources throughout the project duration using modern management techniques to achieve pre-determined objectives of scope, cost, time, and quality. 

Project management and engineering disciplines’ mission is to “Make sure the project stays on schedule, within budget and consistent with quality requirements.”
Project management is responsible for:
Preparation of project strategy plan and project procedures
• Participation in contract negotiation and preparation
• Contract execution, planning, monitoring and reporting
• Meeting and coordination with client
• Direction, control and coordination of project task force
• Budget and expenditure control
• Subcontract administration
• Project financing administration
• Project risk management

Cost Engineering
Cost Engineering is responsible for cost estimates and control. Cost control utilizes modern software packages, including specialized cost estimation software.

Capabilities in this area cover:
• Investment cost analysis
• Budget development & maintenance
• Work breakdown structure
• Expenditure/commitment plan
• Contingency and risk analysis
• Scope change control
• Cost estimating
• Project cost trends
• Economic analysis

Planning & Scheduling
Project planning and scheduling addresses the overall management and control of a project from the conceptual design phase to the hand-over of the completed installation to the customer. Planning & scheduling utilizes modern project controls software such as Primavera in addition to other in-house developed applications.

Capabilities in this area cover:
• Planning & scheduling execution plan
• Network analysis
• Schedule preparation techniques
• Progress evaluation and reporting
• Project trend analysis
• Schedule and performance analysis
• Forecasts
• Manpower profiles
**Procurement**
ENPPI has carried out worldwide basis complete procurement services for a wide range of projects for both onshore and offshore developments. Our experienced procurement team offers local and international procurement services to customers and maintains current data relating to the largest manufacturers in Egypt, Middle East, Europe, USA, and the Far East.

These services include:
- Supplier database
- Purchasing (international & local)
- Expediting
- Supplier quality surveillance
- Insurance
- Traffic/logistics (abroad & domestic)
- Material management

**Construction Management**
ENPPI offers construction management as part of its overall project management or turnkey capabilities.

Construction Management activities cover:
- Constructability study
- Survey works
- Loss prevention policy and safety precautions
- Sub-contractors pre-qualification
- Construction work tender package
- Subcontract administration (preparation & finalization)

Moreover, our construction supervision team performs, on a full time basis, the technical supervision on the following site activities:

- Site preparation
- Civil and architectural works
- HSE Supervision
- Structural steel (fabrication & erection)
- Mechanical works and equipment/package installation
- Underground piping
- Drainage
• Piping (fabrication, erection and testing)
• Pipelines
• Electrical works and instrumentation works
• Surface preparations and painting applications
• Insulation, coating and wrapping applications

**Equipment Fabrication**

ENPPI, through its local fabrication activities, endeavors to maximize the local fabrication of equipment and packages, without compromising the quality and safety requirements. ENPPI performs complete management and coordination of the local fabrication function, starting from detailed fabrication drawings’ preparation to subcontracting and managing the fabrication activities at subcontractors’ workshops.

The following activities are covered:
• Fabrication drawings preparation
• Equipment and packages fabrication inspection, testing & management, for:
  o Pressure vessels, columns, shell/tube heat exchangers
  o Dehydration packages
  o Flare systems
  o Chemical injection packages
  o Separator package
  o Offshore platform fabrication and erection

**Commissioning & Start-up**

In addition to the design and construction supervision activities, ENPPI also assumes a major role in the commissioning and start-up of process facilities and plants in order to achieve the successful testing and start-up of its projects.

This mainly covers:
• Operating procedures and manuals preparation
• Execution of CLTSs & GLTSs and/or other required tests
• Execution of plant/facility performance tests
• Plant/facility provisional acceptance
• Training of customer operating personnel
• Assistance in plant operation and maintenance
**Contracts Administration**

ENPPI has been involved at all levels with a variety of operators establishing contracting strategies for a complete range of projects both onshore and offshore. This has encompassed all aspects of projects from defining authority levels, through contractor Prequalification and selection to final claims negotiation and contract close out. ENPPI can assist in preparing basic types of contracts applicable for all project phases.

**ENPPI Academy**

ENPPI Academy is an integral element in the company’s continuous strive for improvement and development. It was establishment with the aim of upgrading new graduates’ capabilities to keep pace with the ongoing changes in technological developments, the increasing workload and employees’ turnover.

Duration of study at ENPPI Academy:

- For new graduates: 6-8 months theoretical and practical training in labs and sites of petroleum companies
- For experienced engineers: 1-2 months in-house orientation and theoretical technical training

Achievements at ENPPI Academy:

- Graduation of ENPPI Academy 2nd group consisting of 30 Egyptian engineers, after completing their on-job training program in mechanical engineering, civil engineering and I&C engineering
- Graduation of 70 engineers from PDVSA Gas (Venezuela) after completion of 6-8 months of professional training in civil engineering, electrical engineering, mechanical engineering, I&C engineering, process technology and project controls
Quality, Environmental, Health & Safety and Energy Management Systems

In the context of the company’s keenness for continual development and improvement of its operations and activities, and to keep up with the international trend and the general policy of the country to maintain the energy, ENPPI was awarded in June 2013 the certification of the energy management systems (ISO 50001:2011).

Also in December 2013 ENPPI was successfully qualified for obtaining ISO 29001 certification for Quality Management System in petroleum, petrochemicals and natural gas industries. It is worthy to mention that ENPPI is considered to be the 1st EPC contractor in Egypt to get accredited certification for these two certificates (ISO 50001 & ISO 29001) from DAKKS & API.

The implementation of the requirements of these international standards was effectively considered in all of the company’s projects and activities in all stages (design, procurement and supervision of the projects) through an integrated system to monitor, evaluate and improve the performance of the Quality, Environmental and Occupational Health & Safety Management Systems and with a commitment to maintaining the safety and health of workers whether in the company or those performing the work on behalf.

Quality, Environmental and Occupational Health & Safety Management Systems (ISO 9001, ISO 14001, ISO 50001 & OHSAS 18001) have been implemented on several projects and audits. It is worth mentioning that ENPPI is certified by the National Quality Institute (NQI) for providing consultation and training services in the field of QEHS Management systems.
Certificate

GL Systems Certification hereby certifies, that the company

Engineering for the Petroleum & Process Industries (ENPPI)

is established and maintains a Quality Management System for

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

GL Systems Certification confirms that the Quality Management System of the above mentioned company has been assessed and found to be in accordance with the requirements of the following standard:

ISO 9001:2008

The validity of this certificate is subject to the company complying and maintaining its Quality Management System in accordance with the standard indicated. This will be monitored by GL Systems Certification.

The certificate was initially issued on 27th July, 2015.

The certificate is valid from 09th June, 2019 until 08th June, 2022.

Certifcate no. 02-0324

Waleed ElBadawi

Dakk's

Certificate

Certificate

Certificate

Certificate

Engineering for the Petroleum & Process Industries (ENPPI)

is established and maintains an Environmental Management System for

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

GL Systems Certification confirms that the Environmental Management System of the above mentioned company has been assessed and found to be in accordance with the requirements of the following standard:

ISO 14001:2004 (Rev. 1:2009)

The validity of this certificate is subject to the company complying and maintaining its Environmental Management System in accordance with the standard indicated. This will be monitored by GL Systems Certification.

The certificate was initially issued on 2nd November, 2007.

The certificate is valid from 30th June, 2010 until 29th June, 2013.

Certifcate no. 5-0735

Waleed ElBadawi

Dakk's

Certificate

Certificate

Certificate

Certificate

Engineering for the Petroleum & Process Industries (ENPPI)

is established and maintains a Safety Management System for

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

GL Systems Certification confirms that the Safety Management System of the above mentioned company has been assessed and found to be in accordance with the requirements of the following standard:

OHSAS 18001:2007

The validity of this certificate is subject to the company complying and maintaining its Safety Management System in accordance with the standard indicated. This will be monitored by GL Systems Certification.

The certificate was initially issued on 3rd December, 2007.

The certificate is valid from 30th June, 2013 until 29th June, 2015.

Certifcate no. 5-0719

Waleed ElBadawi

Dakk's

Certificate

Certificate

Certificate

Certificate

Engineering for the Petroleum & Process Industries (ENPPI)

is established and maintains an Energy Management System for

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

GL Systems Certification confirms that the Energy Management System of the above mentioned company has been assessed and found to be in accordance with the requirements of the following standard:

ISO 50001:2011

The validity of this certificate is subject to the company complying and maintaining its Energy Management System in accordance with the standard indicated. This will be monitored by GL Systems Certification.

The certificate is valid from 09th June, 2015 until 08th June, 2018.

Certifcate no. 02-0444

Sayed AlBadawi

Dakk's

Certificate

Certificate

Certificate

Certificate

Engineering for the Petroleum & Process Industries - ENPPI
Certificate of Registration

APIQ® REGISTRATION NUMBER
2313

This certificate is for the quality management system of
ENGINEERING FOR
PETROLEUM & PROCESS INDUSTRIES (ENPPI)
1A Ahmed El Zomar Street
Cairo, 8th District-Nasr City
Egypt

has been accredited by the American Petroleum Institute (APIQ®) and
found to be in accordance with the following standard:
ISO 9001:2008

The scope of this registration and the operational quality management system applies to the
Project Management, Engineering, Procurement and Construction
Management Services for the Petroleum and Process Industries

APIQ® approves the organization's justification for excluding:
No Exclusions Identified as Applicable

Effective Date: January 10, 2014
Expiration Date: January 10, 2017
Registered Since: January 10, 2014

[Signature]
Manager/Representative, APQI

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Certificate of Registration

REGISTRATION NO. Q1-2216

The American Petroleum Institute certifies that the quality management system of
ENGINEERING FOR
PETROLEUM & PROCESS INDUSTRIES (ENPPI)
1A Ahmed El Zomar Street
Cairo, 8th District-Nasr City
Egypt

has been accredited by the American Petroleum Institute and found to be in conformance
with the following:
APQ Specification Q1

The scope of the registration and the operational quality management system applies to the
Project Management, Engineering, Procurement and Construction
Management Services for the Petroleum and Process Industries

APIQ® approves the organization's justification for excluding:
No Exclusions Identified as Applicable

Effective Date: January 10, 2014
Expiration Date: January 10, 2017
Registered Since: January 10, 2014

[Signature]
Manager/Representative, APQI
ENPPI Safety Awards
Certificate or recognition awarded to ENPPI for achieving 7,000,000 Man hours without lost time injury (LTI)

Client: YASREF
Project: Yanbu Export Refinery Project Tank Farm Package – SP1

Certificate or recognition awarded to ENPPI for achieving 4,000,000 Man hours without lost time injury (LTI) in January 2013

Client: SUMED
Project: Expansion of SUMED Storage Capacity (6 Tanks)

Certificate or recognition awarded to ENPPI for achieving 4,000,000 Man hours without lost time injury (LTI) in November 2010

Client: Total
Project: Kharir Development Project – Phase 1 (Basement Processing Unit)
Certificate of recognition granted to ENPPI for completing 4 Million Man hours without lost time injury (LTI) in June 2010

Client: GASCO
Project: C2 & C3 Maximization Project

Safety Award to ENPPI for completing 11 Million Man hours without lost time incidents from May 2003 - September 2004

Client: UGDC/ENI/BP/GASCO
Project: NGL Project at Port Said and Damietta Export Facilities

Certificate of Recognition awarded to ENPPI / Petrojet / Rawabi as Prime Contractor for the Expansion of Hout Crude Onshore Production Facilities for achieving 0.8 Million Man hours without lost time incidents in March 2009

Client: Al-Khafji Joint Operations (KJO)
Project: Expansion of Hout Crude Onshore Production Facilities
Certificate of Recognition awarded to ENPPI for the successful completion of 3,000,000 Safe Construction Man hours with Zero Lost Time Incident in November 2008

Client: Saudi Aramco
Project: Yanbu Gas Plant Expansion

Certificate of Recognition awarded to ENPPI / Petrojet, for achieving 2,000,000 working Man Hours without any Lost Time injuries during the fabrication phase in Ma’adia fabrication yard.

Client: Al-Khafji Joint Operations (KJO)
Project: KJO Field Development Project, Offshore Phase 1

Certificate of Appreciation to ENPPI HSE Team in appreciation for supporting subcontractors achieve 1,000,000 Man hours without lost time incidents at 10” & 12” Sapphire condensate pipelines

Client: Burullus/BG Egypt
Project: 10” & 12” Sapphire Condensate Pipelines
Resources & Capabilities
**ENPPI Headquarters**

ENPPI Headquarters is located in Cairo, with a massive area of 40,000 Sq. Mt. It is located in Nasr City, which is 8 Km from Cairo international airport. The building represents a landmark in the neighborhood providing an ideal working environment to 2300 employees.

Modern office facilities are made available to project teams and task forces including:

- Fully integrated computer & CAE network
- Video conference facilities
- Modern reprographic center
- Inclusive task force facilities
- Internal broadcasting network
- Internet & intranet service
- E-Mail service
- Security and maintenance services
- Fax and local/long distance phone facilities
- Clinic, dining hall, gymnasium, shaded parking, etc...
- Library
- Intranet
- Training & ENPPI Academy

In addition to 2 other buildings nearby the HQ for task force and non technical divisions.
Information Technology
CAE Facilities

ENPPI engineering staff, project staff and other technical and non-technical staff utilizes up-to-date computer facilities and software. The following section gives detailed description of such facilities:

Computer Aided Engineering (CAE) Systems

In December 1985, ENPPI inaugurated the CAE center. Currently all the design and drafting activities are executed using CAE systems (PDS, PDMS) in addition to computer facilities and a library of the most up-to-date engineering and project management software.

I. ENPPI CAE Systems

- Various Engineering disciplines currently use CAE systems, these disciplines are; piping, civil, pipeline, and instrumentation, mechanical & electrical in the majority of ENPPI projects, whether onshore or offshore.

- Engineers and designers use ENPPI CAE systems to build 3D plant models, equipment models, and structural models. They are also used to perform design, check clashes, and extract isometric drawings and reports.

- During project execution, the design system model database is the only source for drawings and report generation, ensuring consistency of design across the engineering disciplines.

- Some of the CAE systems deployed at ENPPI include:
  - PDS, PDMS for plant design
  - ETAP for electrical systems design
  - SPI for instrumentation systems design
  - SPPID for P/ID design
II. Plant Design Systems - Intergraph Plant Design Systems – PDS (31 Licenses)

The Main PDS modules are:
- PDS 3D
- EERWAY
- FWP
- Drawing Manager
- SPI
- SPPID

III. Plant Design Systems - Plant Design Management System – PDMS (20 Licenses)

The Main PDMS modules cover the following applications:
- Piping
- Equipment
- Structural
- Hangers and supports
- Instrumentation and electrical cable trays

IV. Smart Plant 3D System (22 Licenses)

V. ENPPI CAE Hardware
CAE Hardware:
- Two dedicated Dell Power Edge 2900 servers, one for PDS and the other is for PDMS.
- Dedicated plant design workstations (Dell Precision) with 20% wide LCD monitors
- All servers/workstations are installed on a 1GB Ethernet network
Information Management Department

(Documentum)

Information Management Department continues to fulfill the aim from its establishment to avail the appropriate information in adequate time in order to enhance performance in diversity of engineering fields and it is considered a tool to assist in decision making and crisis management.

Accordingly, Documentum platform was founded to assist in achieving management objectives.

Documentum is considered the state of platform, applied in major international engineering and construction companies. The merits of this system are obvious in upgrading performance due to its optimal coordination and control in handling documents consistently with the company projects documentation.

It also enables the company to better comply with procedures in implementing documentation starting from document registration, review, documentation, issuance, filing to its safe delivery to the addressee.

Documentum was implemented in major projects such as Al-Khafji Field Development and Burullus Gas Company Projects.
ENPPI Network

A) ENPPI Infrastructure

The Network in ENPPI headquarters is based on Client-Server technology, where the infrastructure includes:

- Multiple dedicated servers (see item B for more details)
- Windows 2003/2008 server and UNIX as a standard operating system for the network servers
- Desktops, printers & plotters distributed among users/departments
- Fiber optic gigabit Ethernet backbone switch (2 backbone switches)
- 10/100/1000 Mbps, STP cabling / POE switches (70 switches)
- ADIC scalar 24 ports tape library supported by LEGATO Networkers Backup System
- Storage Area Network (SAN) using Brocade 500B switches with 32 ports, HBA’s with a 4GB and 9TB raw capacity, one in the main site synchronous while another in the DR site serving the following main servers:
  - File server
  - MS exchange server
  - PDS & PDMS servers
  - Documentum server
  - Corporate database server
  - EGPC material information system server
  - Engineering application Server (Primavera, In Tools & Smart Plant)

B) Servers VS Services

1. Files Server

Two Intel XEON Processor with dual core technology

- 3.6 GHZ
- 8GB RAM
- 146GB * 6 hard disks
- MS Windows 2008 server
2. **ENPPI Corporate Data Base Server**
   - Sparc Sun Fire V440, Risc Dual Processor

3. **Documentum Server**
   - Sparc Sun Fire V440, Risc Dual Processor

4. **Material Information System Data Base Server**
   - Sparc Sun Fire V240, Risc Dual Processor

5. **Engineering Application Server**
   - Dell PowerEdge 2800

6. **Mail & Antivirus Server (3 Servers)**
   - Two AMID Quad core Opteron Processor:
     - 2.3 GHZ
     - 96 GB RAM
     - 146GB * 2 hard disk support RAIDs technology
     - MS Windows 2008 server

7. **PDS / PDMS Server (2 Servers)**
   - Two Intel Xeon Processor with dual core technology each 2.8 GHZ
     - 8GB RAM
     - 146 GB * 6 hard disk support RAIDs technology
     - Windows 2003 server

8. **INTRNET Server**
   - Two Intel Xeon Processor with dual core technology each 2.8 GHZ
     - 4GB RAM
     - 146GB hard disk support RAIDs technology
     - Windows 2003 server
C) Network Management & Security System
- Internet & acceleration server
- Pentium D 3.4 GHZ processor
- 2GB RAM
- 250GB hard disk
- MS Windows 2003 server
- “2” Cisco pix 535 firewall integrated with Cisco IPS system
- Anti-spam appliance
- Web content filtering appliance

D) Video Conferencing System
- “5” – IP/ISDN 2Mbps video conferencing unit with gateway appliance & management software
ENPPI Intranet

ENPPI intranet uses Internet Protocol technologies to securely share information within the company. ENPPI intranet is being used to deliver tools and applications for its employees such as personal information, employees training needs, software demos and manuals, applications download, company daily news, oil and gas daily information, running and previous projects data as well as creative ideas for discussing key issues in an intranet forum application that lead to new ideas in management, productivity, quality, and other company issues.
## ENPPI Software Application Programs

**Process Technology**

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<tr>
<th>Division</th>
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### Mechanical Engineering

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### Electrical Engineering

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Engineering for the Petroleum & Process Industries - ENPPI
### Instrumentation & Control and Telecommunication Engineering

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### Civil Engineering

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Offshore Division

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### Project Management & Controls

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### Procurement

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<td>Site Material Management System</td>
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</table>
Headquarters & Branches
CONTACT US
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Address: 1 “A” Ahmed El-Zomor Street, 8th District, Nasr City, Cairo, Egypt
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Fax: +974 44657036
Mob: +974 33454742
Email: enppi-qatar@enppi.com

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Fax: +968 2421 8588
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