

Enppi

Engineering for the Petroleum and Process Industries



E&I Installation



Enppi, established in 1978 and headquartered in Cairo, is an Engineering, EPC Main Contractor and Electrical & Instrumentation (E&I) Construction Contractor providing fully integrated engineering, procurement, construction supervision and project management services for the petroleum, petrochemicals, power and other industries.

Shareholders

Egyptian General Petroleum Corporation (EGPC) **97 %**

Petroleum Projects and Technical Consultations Co. (PETROJET) **2 %**

Housing and Social Services Fund of The Petroleum Sector's Employees **1 %**

Capital

Authorized **\$ 600 Million**
Paid **\$ 220 Million**

**All our operations
are covered by**

**ISO 9001,
ISO 14001
OHSAS 18001
and
ISO 50001**



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

**We have achieved certification
to the revised standard
ISO 9001:2008, ISO 14001:2004
OHSAS 18001:2007 and ISO 50001:2011**

Enppi

Scope of Services

We provide our specialized services
in all possible contractual roles;
as a **main contractor**, joint venture
partner, **E & I installation**
contractor, engineering
contractor, project **management**
contractor or subcontractor.

Engineering

- Process Engineering
- Mechanical Engineering
- Electrical Engineering
- Instrument and Control Engineering
- Civil/Structural/Architectural Engineering
- Piping Engineering
- Pipeline Engineering

Procurement

- Worldwide Purchasing
- Expediting
- Supplier Quality Surveillance
- Traffic and Logistics
- Material Management

Project Management & Construction Supervision

- Overall Project Management
- Contract/Subcontract Administration
- Project Financing Administration
- Planning and Scheduling
- Cost Estimation and Budgeting
- Progress Evaluation and Reporting
- Cost Control
- Material Monitoring
- Corrective Actions to maintain Schedule and Budget

E&I Installation

Enppi

Electrical & Installation

The Installation Division was established in 1999 to provide installations, pre-commissioning, commissioning and management services of electrical, instrumentation, telecommunication, fire protection and detection systems, mechanical and civil work relevant to E&I for the petroleum, process and industrial projects in Egypt, GCC countries, MENA region and worldwide.

Scope of Services

- Installations, pre-commissioning, commissioning and start-up activities of electrical and instrumentation, fire detection/protection and telecommunication systems.
- The installations include power generation, distribution systems, transformers, lighting system, grounding & lightning protection, cabling systems, race ways, instrument calibrations, instrument control systems (PLC, DCS, ESD, PCS, VMS, HIPPS, SCADA, etc...)
- Installations of civil work related to E&I including substations and control room buildings, earth work, concrete and finishing activities.
- Installations of mechanical work related to E&I including HVAC System and fire fighting for buildings.

Fields of Activities

- E&I scope for turnkey Projects
- Supply and installations of electrical, instrumentation, fire fighting and fire detection systems
- Supply and installation of civil, mechanical related to E&I work
- Pre-commissioning scope
- Commissioning & start-up assistance
- Installations management and supervision
- Revamp of exiting gas / oil petroleum projects
- Upgrading and modernization of electrical substations and control systems

Enppi

Electrical & Installation

Electrical Workshop Equipment and Tools

The Installation Division has complete electrical workshop equipment and tools for using in the construction of all electrical activities, testing, pre-commissioning and commissioning.

All the mentioned equipment and tools are available in the electrical workshop and owned by Enppi.

Periodic maintenance and calibration are being performed for ensuring the quality and compatibility of the electrical workshop equipment and tools that have always-valid signed certificates from approved authorities.

E&I RESOURCES

E&I Installations division has its own professional / qualified engineers and technicians to perform the installation, pre-commissioning and commissioning activities. All engineers and technicians have the experience in the oil & gas installation field. Meanwhile, the division has the option of hiring labors and any additional qualified technicians from the local market according to workload and site needs.

The Installation Division has its own sufficient / adequate site temporary facilities to assist in performing the project tasks. Enppi provides site temporary facilities and resources in accordance with every site condition and location.

The Installation Division has the option of purchasing and/or renting the required suitable site temporary facilities, equipment and site accommodation from the local market in case of customer special requirements or to suit specific site conditions.

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Electrical & Installation

Workshops Equipment / Devices

- Hi Pot tester
- Relay test unit
- Fault locator
- Transformer test unit
- Phase sequence indicator
- Earth tester
- Oil dielectric test set
- High-low common adjustable battery charger
- Tachometer hand held (-3000 RPM)
- Light intensity meter
- Variac 0-240 volts
- Insulation tester
- Pneumatic operated tools required for work at life plant areas such as drillers, cutters, etc....
- Construction equipment such as diesel generators, welding m/c's, drillers, grinders, flame cutting equipment, etc...

Instrument Laboratory Components

- HART communicators model 475
- HART communicators model 375
- Portable pressure calibrators (High / Low)
- Multifunction process calibrators
- Standard precision test gauges from 0 to 700 BARG
- Hydraulic pressure hand pumps from 0 to 700 BARG
- Dry block temperature calibrators from (-30 °C to 670 °C)
- Digital pressure calibrators
- Air supply panel regulated pressure ranges: 0 to 2.5 and 0-1 Bar
- Pneumatic control module regulated pressure range: 0 to 250 Bar
- OTDR and power source for fiber optic cables
- Electric vacuum pump, c/w accessories
- Variable AC power supplies
- Digital multi meters
- Fixed DC supply module output: 6:110 VDC
- DC power supply
- Pressure and vacuum hand pump
- Hydraulic hand pump
- Dry block calibrator temperature (range from - 20 to + 650 °C)
- Load resistance
- Dual range DC power supply
- Resistance box 0.01 OHM to 1 MOHM
- Glass thermometers
- Dead weight tester
- Foundation field bus tool (software)
- Pre-fabricated mobile workshop container
- Safety and relief valve test bench

Enppi
Electrical & Installation
Experience

Projects Worldwide

Yanbu Export Refinery Project Tank Farm Package – SP1 (In Progress)



Contract Type

EPC LSTK (Enppi Main Contractor)

Scope of Services

- Engineering, material supply “mechanical, civil and construction works subcontracted to Saudi local companies”, commissioning & start-up and overall management.
- E&I installation

Project Description

The project aims to install a new refinery with capacity of **400,000** Barrel/Day The tank farm package of Yanbu export refinery includes **33** storage tanks with different diameters (**12.5** to **120** mt), sizing up to **1.2** Million Barrels and **13** spherical tanks **60,000** barrels each.

Expansion Of HOUT Crude Onshore Production (Upgrade Of HOUT Control Room)



Contract Type

EPC LSTK (Consortium of Enppi and Petrojet - Enppi Leader)

Scope of Services

- Engineering, procurement, participate in E&I installation, project management, commissioning and start-up assistance.
- E&I installation:
 - Execute electrical and instrument work during plant shut down (duration 6 weeks). This includes rerouting of the existing cables, removal/demolish of existing marshaling cabinets, installation of cable trays, installation of new panels, DCS , ESD replace existing field switches by new transmitters, testing and pre-commissioning & loop checks.
 - Modification of existing interposing relays
 - Modification of PMCR DCS and gas pipe Line ESD, tank gauging system installation.

Project Description

Expand storage capacity at Hout onshore production facility by installing additional four storage tanks (500 to 80,000 m³ capacity floating and fixed roof), in addition to booster pumps, instrument, piping, fire fighting and a new electrical substation.



Enppi

Electrical & Installation
Experience

Projects in Egypt

Amerya 6.6 Kv Main S/S Modernization



Contract Type

Lump-sum

Scope of Services

Construction, pre-commissioning and commissioning & start-up assistance

Project Description

New sub-station (6.6 KV) electrical equipment and its auxiliaries;

- All civil work
- Fire protection system (FM-200)
- Lighting, earthing
- Fire detection and alarm system
- HVAC system



Crude Distillation Unit

Contract Type

Lump-sum for professional services and cost plus for material supply and construction.

Scope of Services

- Engineering, material supply, mechanical, civil and construction works, commissioning & start-up and overall management.
- E&I installation

Project Description

Assiut Oil Refining Company (ASORC) consists of two atmospheric distillation units (CDU) and common vapor recovery unit (VRU) to process 100000 bpd of Gulf of Suez mixed crude. The refinery is located in Assiut, Egypt. The atmospheric crude distillation unit on-stream efficiency is 330 day/year.

The project aims to increase the refining capacity by 2 MT/Y to produce:

- 516,000 T/Y Diesel
- 283,000 T/Y Naphtha
- 189,000 T/Y Kerosene
- 1,000,000 T/Y Fuel Oil



Obaiyed New Pre-compression Project



Contract Type

EPC turnkey – Lump-sum for professional services and construction works and disburseable for material supply

Scope of Services

- Engineering, material supply, mechanical, civil and construction works, commissioning & start-up and overall management.
- E&I installation

Project Description

The project aims to restore Obaiyed Gas Plant (OGP) compression capacity by 420 MMSCFD through the installation of 2x50% compression train facilities to upgrade OGP pressure from 25 to 86 barg.

Rehabilitation Project

E & I Installation Work for July 10 Platform



Contract Type

Professional services and cost plus for material and subcontractors

Scope of Services

- EPCM: Engineering, material supply, mechanical, civil and construction works, commissioning & start-up and overall management.
- E&I installation

Project Description

The rehabilitation project is a long term contract that aims to access and improve the safety and operational integrity of GUPCO existing facilities. July 10 platform consists of the installation of electrical, instrumentation, fire detection and alarm systems.

Rehabilitation Project, E&I Installation Work for Badri Platform (Off Shore)



Contract Type

Professional services and cost plus for material and subcontractors

Scope of Services

- Installation of the following electrical works: main electrical equipment including LV switchgear &MCC, LV frequency converter, battery & battery charger assembly, DC starter motor, grounding systems, lighting &small power systems, cabling & conduits.
- Installation of the following instrument works: field instrument including mechanical, electrical and pneumatic hook up & orifice plate, pressure safety valves, on/off valves, calibration of on/off skid instruments, fabrication of instrument supports and junction boxes/panel frames, installation of coaxial cables, laying, glanding and termination of single & multi core cable in field and control room, installation of instrument panels, installation of junction boxes, installation of cable trays and their cover and accessories.
- Installation of F&G detection and alarming system including manual alarm call points, site siren linear heat detectors, repeater panel junction boxes, power and signal cables, fire alarm control panel and protection system.



Project Description

The rehabilitation project is a long term contract that aims to access and improve the safety and operational integrity of GUPCO existing facilities, Badri platform includes installation E&I facilities.

Agroud Spent Lube Oil Treatment and Storage Facilities Project



Contract Type

Lump-sum

Scope of Services

- EPCM: Engineering, material supply, mechanical, civil and construction works, commissioning & start-up and overall management.
- E&I installation

Project Description

Petrotrade intends to build spent lube oil treatment and storage facilities at Agroud in Suez

Kalabsha 40,000 BOPD Oil Facility Project – E&I Installation Work



Contract Type

EP scope: Lump-sum for professional services and cost plus for material supply

Scope of Services

- Engineering, material supply, construction supervision, commissioning & start-up and project management.
- E&I installation

Project Description

The project aims to develop the facilities at Kalabsha and overcome the downstream bottlenecking till the receiving point at El Hamra facilities.

- **1st Phase: To produce 20,000 BOPD (completed)**
- **2nd Phase: To produce 40,000 BOPD**



Fire Protection System Upgrading



Contract Type

Lump-sum

Scope of Services

The project aims to upgrade and install new electrical, instrumentation, fire & gas system activities for MIDOR refinery Including its relevant civil work.

Project Description

The project aims to upgrade fire protection system at MIDOR refinery.

Upgrading of Fire & Gas System



Contract Type

LUMP SUM

Scope of Services

The scope of this includes engineering, procurement services and commissioning and start-up.

Project Description

The project aims to upgrade WEPCO fire & gas system. The removal of existing fire and gas detection system. The installation of fire and gas detection and alarm system including control panel, UV/IR detectors, flame detectors, gas detectors and linear path detectors.

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