UCEP Company Profile And
Scope of Work
Introduction

We would like to introduce ourselves as a leader electrical engineering company specialized in electromechanical projects (EPC / Engineering, Procurement & Construction) for HV / MV projects execution in the Middle East and Worldwide through tendering and private sales channels & contractors for both public and private sectors. As well as our Iraqi Branch Office has been established in Erbil city in Kurdistan Region / Iraq.

We are providing turnkey solutions as well as services to projects in the field of power & electricity. Our team’s unique strategy allows us to provide solutions that comply with our business principles.

Our main Policy is client Satisfaction; by building long term partnerships and working closely with clients on the execution of their projects, our members do their best to deliver superior service to our Clients, with a cost effective professional product/Service on time and budget.

Scope of Work

- Providing turnkey execution of HV substations up to 400 kV with leading-edge Products, systems and turnkey solutions, backed by comprehensive range of services, from concept to commissioning.
- Studying every aspect of the project by encompassing planning, Project management, financial considerations and environmental needs.
- Bringing together the best mix of products through standardized or based on Project’s Requirement, to ensure a fast return on investment using best practices adopted across the world.
- AIS or Gas Insulated Substations can be executed.
- Undertake turnkey projects for indoor and outdoor Substations up to 400KV grade.
- Enjoys strategic partnership with our worldwide suppliers, with full support.
It is including

- Site survey Study.
- Preliminary design (Electrical/ Civil).
- Civil construction.
- Procurements and materials Supply.
- Engineering (Electrical, Civil).
  - Pre-design Aspects.
  - List of documents needed from Electrical works.
  - DCS Configuration and Internal Validation.
  - Protection Study and setting Configuration.
  - BMS Configuration.
- Protection Study & Control Panels Assembly.
- Project Management.
- Warehousing & logistic services.
- Installations and Mechanical works.
- Commissioning and start up.
- Maintenance, operation & repairing (After sales).

Site Survey Study & Civil Construction

- Preparing maps which show the physical features of the site.
- Ascertain the size and shape of our substation on the site.
- Preparing detailed geotechnical investigations necessary for the design and construction of all relevant items under the project scope.
- Identification and relocation of existing underground services if any, including, telephone, electricity, water, fuel and fresh water pipelines, storm drainage, etc.
- Earthworks required for the construction of the station embankment including site sterilization against weed growth and protection of embankment slopes.
- Clearing and leveling of the site to the designed formation level.
- Design and construction of the foundations for outdoor equipment.
- Design and construction of all cable trenches and ducts, pits, tunnels and duct banks.
- Design and construction of a substation perimeter drainage system.
- Design and construction of embankment boundary works including fencing.
- Earthing System laying, based on a specific soil resistance calculation and design drawings.

Procurement and materials Supply

- Working on the list of materials dedicated in scope of work, based on Electrical & Civil Design.
- Preparing Procurement plan including time, cost, conditions.
- Contacting the Main Sub-suppliers according to the Contract Terms, which were agreed on previously with the End Client.
- Preparing Purchase orders and sending them to sub-suppliers including all agreed terms and conditions.
- Handing over the Procurements file to Logistic Section.
**Engineering**

Our services begin by assessing the clients’ design environment, operating constraints and design outcomes. Working on the detailed design commences after our engineers receive the approval for the pre-design studies subsequently submitted to the client. As an end-product, the client will receive as-built drawings and all other necessary documentation. Under request, we will depute one of our engineers to discuss the electrical and civil design with the end client.

**Pre-Design actions**

- Provide a detailed review of your existing design and installation.
- Propositions for several designs.

**Electrical Design:**

Our Electrical Design process is including the list of Drawings, Documentation & Schematics:

- Operational SLD.
- BOQ & Procurement list.
- Cable List & Cable Connection.
- Auxiliary supplies (AC/ DC) SLD.
- Protection & Metering SLD.
- Line, Transformer & Busbar Bays schematics.
- Protection and Control Panels layouts (2D / 3D).
- Panels cutouts.
- Protection, Control, Marshaling and Auxiliary supplies Panels interconnections.
- DCS panel layout & interconnections.
- As Built drawings.

**DCS Configuration:**

Our plan for DCS Configuration includes the below functions & features:

- SWGR Indications.
- SWGRs Control.
- Interlocking.
- Alarms & events.
- Data Archiving.
- System Diagnostic.
- Printing.
- Synchro Check.
- System Synchronizing.
- Trending.
- Measurements.
- Monitoring IEDs Connections (Serial, Ethernet & FO).
- IEDs Data Acquisition.
- Redundant Networks.
- Tap Position indication & Control.
Internal Validation:

Check the Configured Equipment before & After Assembling based on Platform as the following:

- Check IEDs Functionality.
- Check DCS Functionality.
- Check the consistency between the Configured Equipment & Schematics.

Protection Study

- Studying the protection philosophy requested by the clients.
- Selecting the protection devices in cooperation with the relays’ manufacturers, and making them comply with the needed protection and control functions.
- Determining the detailed specifications of both the current and voltage transformers (CTs & VTs dimensioning).
- Applying the technical features of the protection relays in the schematic drawings.
- Preparing the selectivity study of the over current protection as the following:
  - Selectivity Scheme (Ampere-metric, Chrono-metric and logic).
  - Assignment of logic inputs/outputs of the relays.
  - Setting files.
- Testing and commissioning the protection relays using (ISA Test Sets).
Electrical Panels Assembly from OEM suppliers:

Panels Assembly is done by our Sister Company Rabbat Electric Ltd., which is responsible for:
- Assembling and testing all the conventional electrical panels.
  - LV control panels for MV switchgears
    - Schneider Electric /Known previously as Areva – GMA.
    - SIEMENS- NXPLUS C.
    - ABB- Unigear –ZS2.
  - Control and protection panels for MV& HV substations.
  - Electrical panels for LV applications.
- Assembling and testing the DCS panels.

The assembly work performed can be summarized as follows:
- Preparing the work plan of the projects.
- Managing and timing the production.
- Erecting the panels according to the designed schematic drawings
  And internal connection diagrams.
- Carry out the function tests of the panels (FAT).

Building Management System:

New Service Can be offered due to our continuous development strategy. Our new service can be integrated in Malls, Hospitals and Companies.

- Lightning System.
- HVAC System.
- Room Automation (Temperature Control, Windows Control & Blind Control).
- Facade Control.
- Access Control.
- Fire System.
- Video Control & Monitor.
- Parking Automation.

**Project Management**

- According to PMI Standard.
- Develop Project Description Sheet.
- Create & Update Project Management Plan (Scope, Schedule, Cost, HR, Quality... etc.).
- Organize the project to meet the stakeholders’ specific requirements & Satisfaction
  And achieve our strategic plans to meet our goals.
- Manage & Control Project Activities according to Plan during Project Execution.
- Prepare Periodic Performance Reports detailing activities, accomplishments, milestones,
  Identified issues, problems...etc.
- Organize Periodic Meeting with the project team & Customer.
- Ensuring exact compliance with specified cost levels and schedules.
- Update Project documentation & archive the Lessons Learned and historical records.
- Obtaining the required approvals to assure the achievement of project objectives.
- Manage and liaising with all Stakeholders.
**Warehouse and Logistics:**

As a completion of our scope of works for turnkey projects, UCEP has stood out for its team spirit & level of services with a good & professional experienced crew responsible for the logistics services, UCEP offers these services related to the supplies imported for the projects which starts at goods movement to our warehouses abroad, gathering more than two products from different suppliers together & choosing & dedicating the good shipping lines to meet the growing needs for its customers from a sustainable development perspective & ends with goods / supplies delivery to site or final destination / End Client.

Warehousing & Logistics services include but not limited to:

- Notification from suppliers about materials / goods readiness on time for delivery arrangements to forwarders according to agreed delivery method.
- Matching goods readiness from several & different manufacturers for aggregation & gathering process then sending all the goods to our warehouses existing abroad at exporting country for dispatching arrangements or storage waiting for other goods to be ready & complete the lot preparing to send them altogether to destination.
- Attending & supervision the packing process at manufacturers’ warehouses / premises.
- Supervision on loading materials / goods on trucks or containers as case required at manufactures or forwarder’s site, otherwise moving the supplies to UCEP warehouses existing abroad for gathering with the rest of supplies as one lot shipment.
- Arrangements with the forwarding agent for choosing the best line with the best services & time commitment to meet as much as possible the project timelines schedule.
- Following up and checking related exports documents required from manufacturers / suppliers and preparing the related imports documentation for the materials / project with all certification & legalization process may require.
- Daily checking the departure of the goods till final destination arrival.
- Preparing & arrangements the custom papers at destination & notifying the custom broker of the exact time for goods arrival with handing over to him all related papers to start the customs process once goods arrive to port or customs / border point.
Upon finishing the customs process, UCEP prepares for the inland transportation of the goods to warehouses at destination point or directly to the site as the case required starting the installation process from the technical team side.

**Installation**

Includes, but not limited to:

- Installation of high voltage of outdoor/Indoor electrical equipment According to Substation’s design.
- Steel structure assembly and Erection.
- Earthing system connections according to design plan.
- Connecting power transformers, earthing transformers and Cable terminations till 66 Kv level.
- Installation of marshaling kiosk, control and protection panels for high And medium voltage.
- Low voltage cables lay and terminations.
- Installation of AC/DC Cubicles Supplies.

**Site Acceptance Test “Commissioning” & START-UP**

- Assessment the condition of substation equipment.
- Verification that the power distribution system and Electrical components conform to design drawings.
- Detection of any shipping damages or abnormalities.
- Confirmation of the readiness of all system components including Calibration of all protective devices.
- Conducting non-destructive testing before initial energizing.
- Documentation of all findings and component settings in a comprehensive report.
- Training the final customers how to exploit the protection & DCS system effectively.
- Providing the operation and maintenance services.

**Maintenance, operation (After sales).**

We provide the operation and maintenance services by our superior team’s knowledge and experience; additionally we present periodically visits, aiming to reach to Customer Satisfaction, which will bring more revenues for the organization.

(After sales service) plays a pivotal role in strengthening the bond between the Corporation and customers.
Power Generation Field:

United Company for Electrical Projects has begun since 2015 to enter power generation field and to fulfill power plants requirements where we trained our staff on power generation field (operation and maintenance).

UCEP signed Agency Agreement with “Siemens AG” Company in 2016, to carry out activities related to United Nations’ projects in Syria.

Abilities and Capabilities:

We are able to provide through our technical and commercial team the following services and activities:

- Support and participation with execution of all scheduled preventive maintenance activities:
  - Combustion system inspection.
  - Hot gas path inspection.
  - Major inspection.
  - Major overhaul.

For the gas turbines – steam turbines and generators in addition to their auxiliaries:

- Supply of all spare parts, tools, and maintenance requirements.
- Supply of man power (engineers and technicians to perform the A/M inspections).
- Maintenance organization – plan and preparation including maintenance time schedule.
- Participation in long term maintenance and operation agreement for the power plants.
- Projects management.
- Supply of any additional required services such as civil works.
- Carry out and follow up all the contracting, commercial and financial procedures from bid submission till issuance of final acceptance certificate for the relevant contract.
- Consultancy services for the power plants.