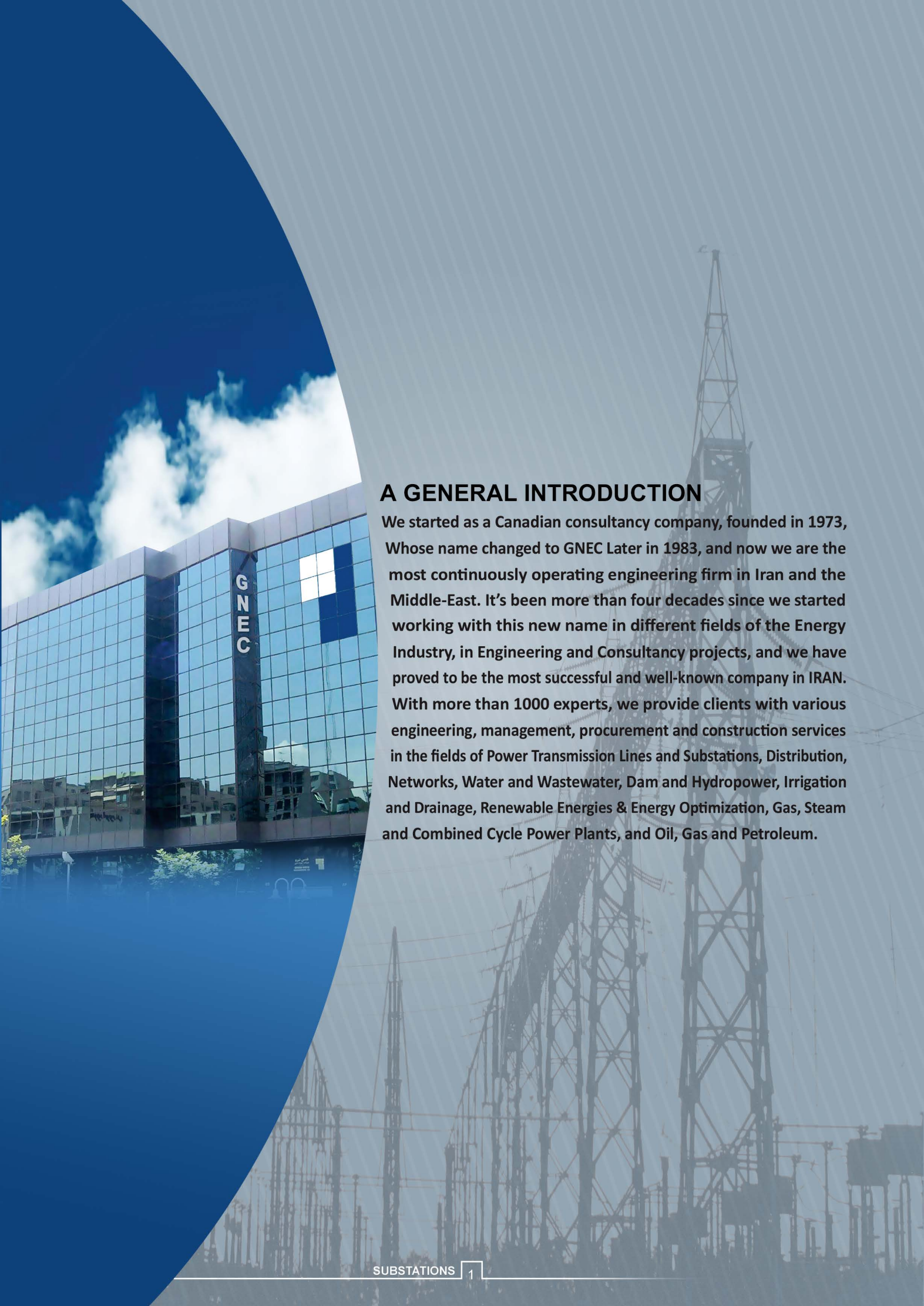




**Power Transmission
Substations and
Dispatching Centers**



A GENERAL INTRODUCTION

We started as a Canadian consultancy company, founded in 1973, Whose name changed to GNEC Later in 1983, and now we are the most continuously operating engineering firm in Iran and the Middle-East. It's been more than four decades since we started working with this new name in different fields of the Energy Industry, in Engineering and Consultancy projects, and we have proved to be the most successful and well-known company in IRAN. With more than 1000 experts, we provide clients with various engineering, management, procurement and construction services in the fields of Power Transmission Lines and Substations, Distribution, Networks, Water and Wastewater, Dam and Hydropower, Irrigation and Drainage, Renewable Energies & Energy Optimization, Gas, Steam and Combined Cycle Power Plants, and Oil, Gas and Petroleum.

OUR EXPERIENCES

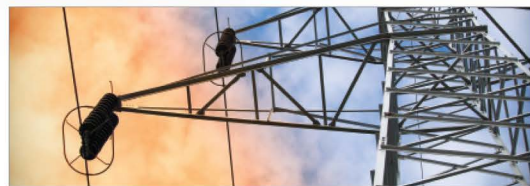
We have already provided services for:

- More than 27,000 Km of power transmission lines and many distribution networks from 33kV to 400kV.
- More than 820 substations in all voltage levels from 33kV to 400kV.
- More than 60,000 MW of power plants.
- More than 310 projects in dams, water transmission lines, irrigation, drainage, hydropower plants and about 500 km of water & wastewater network.
- More than 3000 km of gas transmission lines and several fuel storage tanks.
- More than 100 renewable energy plants and energy management projects with a wide variety of services.



OUR SERVICES

- Design and engineering services
- Project review, project management, construction control and supervision
- Conceptual, preliminary and detailed design
- Consultancy services and economic studies
- Management of contract (MC)
- Feasibility studies, EIA, ESIA, HSE, and RAP
- Surveying and geotechnical investigations and engineering
- Engineering, procurement and construction (EPC) services
- Electricity grid and access studies and reliability improvement



BUSINESS EXPANSION

Our area of activities has always been expanding by adding new businesses fields such as Hydro structures in 1994, Oil & Gas in 2002, renewable energies in 2005 and continue to grow by entering into exporting engineering services, and participating in EPC, BOO and BOT projects.

Business Growth During the Years



Certificates

ISO 9001



ISO 14001



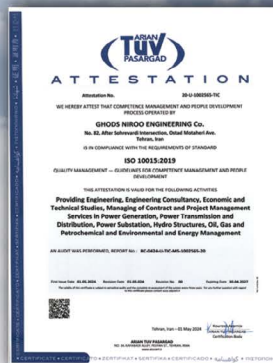
ISO 45001



HSE-MS



ISO 10015



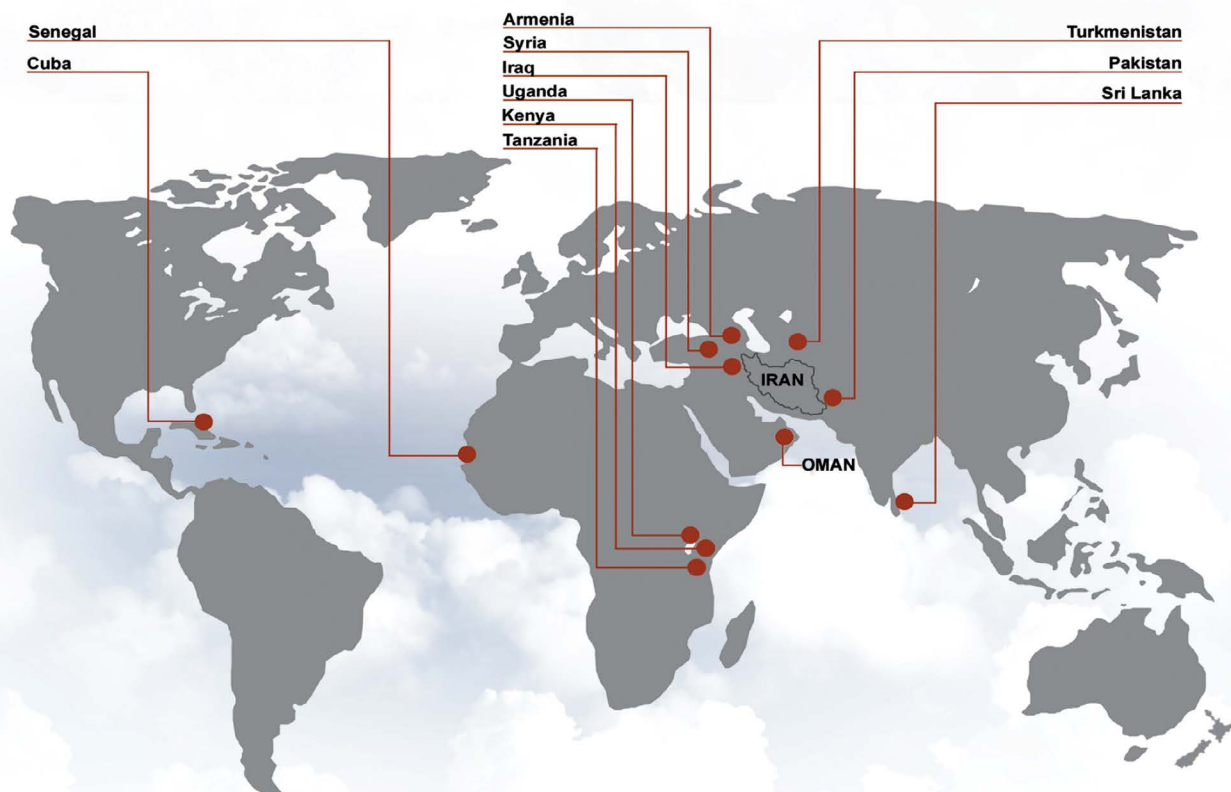
EFQM



ISO 10006



GNEC Area of Activity





POWER TRANSMISSION SUBSTATIONS

Overview

As a reliable partner for substation-related projects, we bring expertise in planning, rehabilitation, extension, operation, and control of electrical grids. With a track record of over 600 successful projects, our professional team excels in all aspects of electrical systems, from initial studies to full implementation.

Our goal is to provide reliable energy solution for Utilities and Industrial clients through innovative design and environmentally friendly practices. Specializing in GIS, Hybrid, and AIS substations, we offer high-quality services in the latest substation technologies, utilizing both conventional and automatic control systems.

& DISPATCHING CENTERS

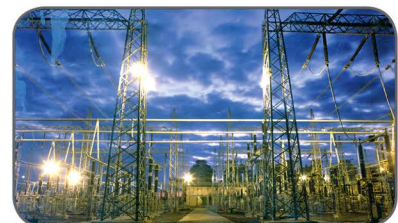
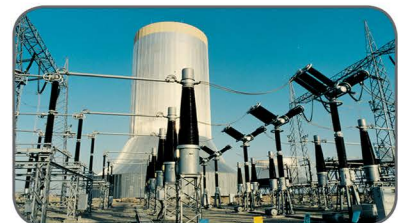
FIELD OF ACTIVITIES

- Substations from distribution voltage level to extra high voltage level
- Electrical installations, Grounding system, site lightning & lighting system
- Telecommunications, Dispatching Centers and SCADA systems
- Power System Studies and Analysis
- Renovation of control, Protection & communication system
- Rehabilitation and extension of substations
- Standard Preparation, codifying and rule defining for operation of substations



SERVICES

- Technical and Financial Feasibility Studies
- Value Engineering and Holding Workshop
- Management of the Contract Service
- Basic and Detailed Engineering Design
- Preparation of Equipment Technical specifications
- Design review and Endorsement
- Preparation of Bidding Document
- Bid evaluation services
- Field Engineering and Site Supervision
- Inspection and supervision on Factory Tests and QC
- Project Quality and HSE Risk assessment
- Providing Training courses and on-job training programs
- Project Control and Reporting
- HSE Implementation Services



Highlighted Projects

Engineering and Supervision over Renovation and Optimization of 230/132/33 kV AHWAZ 1 substation

Client: Khuzestan Regional Electric Company- Iran

Ahwaz1, constructed on 1959, is one of the oldest transmission level substations in Iran Grid which plays key role in distribution of electricity in main 230kV ring of Ahwaz city. The project reinforced the integrity of control system, increased the stability the substation and made the future extension of the substation possible. As a Brief description of the Project, the following scope shall be mentioned:

- control & protection system of the substation were Renovated/Optimized from old conventional to modern SAS compatible with IEC 61850 protocols
- Communications system and RTUs are replaced based on new Tavanir Standards
- Busbar Configuration is modified and major old outdoor equipment are replaced
- Damaged foundations of equipment are repaired.
- Heavy HSE supervision over works while neighboring feeders were energized was sign of distinction of this project



Engineering and Supervision services for Opuyo-Moroto 132kV Power Transmission Line and Associated Substations



Client: Uganda Electricity Transmission Company Limited (UETCL)- Uganda

By implementing of this project, access to electrical energy for inhabitants of vast area in Karamoja region, Uganda is provided. As a Brief description of the Project, the following scope shall be mentioned:

- The extension of the existing Opuyo Substation by two 132kV feeder bays
- Establishment of a complete new 132/33 kV Moroto Substation comprising 2 x 132kV incoming line bays A 132-kV busbar 2 x 15/20 MVA 132/33 kV transformers and Associated 132 kV switchgear and indoor 33 kV GIS

Construction of Darquain New 132 kV GIS substation and extension of 400 kV Milad Abadan Substation (EPC Project)

Client: ENI-Iran Company- Iran

This project including one 132 kV GIS substation which was fed through double circuit 132 kV Transmission line from Milad Abadan 400 kV Substation aims to electrify the Darquain Oil Field. As a Brief description of the Project in substation sector, the following scope shall be mentioned:

- Construction of new 132 /33kV GIS substation (2+2 H type scheme)
- Extension of Milad 400/132kV Substation by construction one 400 kV Transformer bay and three 132 kV feeders.
- Providing one 120MVA 400/132 kV and 2*90MVA 132/33 kV Transformers



Consultancy Services for feasibility studies, Engineering Service & Site Supervision of Central Mazandaran 400/230 kV Substation

Client: Mazandaran Regional Electrical- Iran

By implementing of the project electrical grid of the region was rehabilitated and electrical energy was provided for utility. As a Brief description of the Project, the following scope shall be mentioned:

- Construction of Central Mazandaran 400/230 kV Substation consisting of:
 - Two 400 kV line feeders
 - One 400/230 kV transformer bay
 - Two 230 kV line feeders



Engineering and supervision services of Thirty 66/20kV substations in Syria

Client: Public Establishment for Distribution and Exploitation of Electrical Energy (PEDEEE) - Syria Financed by IDB, This was a vital project to increase the stability of distribution electrical network through construction of 30 new 66/20kV substations all around the Syria. As a Brief description of the Project, the following scope shall be mentioned:

- Construction of Thirty 66/20kV indoor AIS substations
- Providing and installation of sixty 30MVA 66/20kV Transformers
- 20kV indoor AIS switchgear and DCS control system for each substation



Consultancy Services for Feasibility Study, ESIA and RAP, Engineering Design, Supervision and Project Management of Azerbaijan Power Transmission Project

Client: Azerbaijan Regional Electric Company- Iran

By implementing of the project electrical grid of the region was rehabilitated and electrical energy was provided for industries and utilities by connection of Sahand power plant to Orumieh power plant. Scope of the Project was as following Construction of Sarab, Ardabil, Guermi, Khalkhal 230/63/20 kV Substations and Golmankhaneh and Central Tabriz 230/132/20 kV Substations.



Management of Contract for Saba 1 and 2 Power Plants and Associated Substations



Client: Saba Dehloran Power Plant Company (DSP)- Iran

By this project needed electrical energy of Petrochemical industrial projects as well as existing oil fields in the region is supplied. This program included construction of various sectors of Power Transmission Lines, Gas Turbine Power Plant, Gas Pressure Reduction Station and related gas supply pipelines. A brief description of the work done in the substation section is as follows:

- Construction of 230 kV substation ,Double busbar configuration, AIS substation for each power plant to evacuate more than 750 MW generated power to the loads and consumers

Project Management, and supervision of Procurement, Engineering and construction of CCCP Power Plant three GIS substations

Client: Pars Oil & Gas Company (POGC)- Iran

This project facilitated distribution of power and electrification of South Pars Petrochemical Plants from CCCP Power Plant and connection to the Grid to maintain stability of the network. As a Brief description of the Project, the following scope shall be mentioned:

- Construction and establishment of two 132kV GIS and one 400kV GIS independent substations in order to connect 1000MW gas turbine power plant and 500MW Steam power plant to the grid including:
- Construction and establishment of two 132kV GIS and one 400kV GIS independent substations in order to connect 1000MW gas turbine power plant and 500MW Steam power plant to the grid including:
- GIS 1 including: four 400kV line feeders, Two 400kV transformer feeders, Three 400kV combined cycle power plant feeders with double busbar arrangement with coupler for 400kV S/S.
- GIS 2 including: ten 132kV line feeders, two 132kV transformer, with double busbar arrangement for one of 132kV SS.
- GIS 3 including: eight 132kV line feeders and six 132kV gas turbine power plant incoming feeders with double busbar configuration and bypass DS.
- Also 2*200MVA, 400/132kV power transformers; 2*315MVA, 132/132 power transformers and 6*132/15.7kV generator power transformers.
- Telecommunication system including remote monitoring and control of substations by regional & national dispatch center



References

Finish Date	Assignment Name	Country of Assignment & Name of Client	Role on the Assignment
Ongoing	Provision of Project Management Consultancy Services for Construction of Kidunda Dam substation	Tanzania Dar es Salaam Water Supply and Sanitation Authority (DAWASA)	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
Ongoing	Safir 230/66kV GIS Substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
Ongoing	Engineering Services for purchasing of 500 MVAR detuned capacitor banks	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
Ongoing	Engineering Services for technology transfer of Sub-Transmission GIS substations	Iran Tehran Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2024	Electrification of Goureh-Jask Crude Oil Pipeline Program Installation and Commissioning of (230/11kV Substation, 230/63kV Substation; 400/132kV Substation; 132/11kV Substation)	Iran Petroleum Engineering and Development Company (PEDEC)	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2024	Turbine 230/66 kV GIS Substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2024	Extension of FAJRE GONBAD 230/63 kV substation	Iran Mazandaran Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2023	Engineering Services for Mazandaran Regional Electricity Financing Projects	Iran Mazandaran Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2023	Jahan-Ara Arvand Steel 400/33 kV	Iran Jahan-Ara Arvand Steel Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2023	Galle-dar 400 kV substation	Iran Sahel Construction corporation	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2023	Piroozan 400/132 kV substation (phase 1)	Iran Khoozestan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2023	Galle-dar 400 kV substation	Iran Sahel Construction corporation	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2022	Damavand Petrochemical Company 400/230 kV Substation	Iran Sahel Construction corporation	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2022	Bafgh Steel and Iron Company 400/33 kV Substation	Iran Bafgh Steel and Iron Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2022	Engineering services for purchasing of 32*27MVA,132/11kV transformers for Khoozestan regional electrical co.	Iran Khoozestan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2021	Jahan Foulad 400/33 kV and Gol Gohar substations	Iran Sirjan Gohar Energy Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2021	Tangsir 230/63 kV GIS Substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2021	Second Phase of 400/132/20 kV substation for Akhtar Power Plant	Iran South Pars Oil & Gas Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2021	NGL3200 400/33 kV Substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2021	Opuyo- Moroto 132 kV Transmission Line Project And Associated Substations	Uganda Uganda Electricity Transmission Company Ltd (UETCL)	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2020	Roudbar (Lorestan) 400 kV Power Plant Substation	Iran Iran Water And Power Resources	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2020	Phase 13 of gas plant 132/33 kV substation	Iran Nir Pars Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision

Finish Date	Assignment Name	Country of Assignment & Name of Client	Role on the Assignment
2020	Extension of GIS ARFA steel 230/33 kV substation	Iran Yazd Regional Electric ARFA Iron and Steel Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2020	Orumiyeh combined cycle power plant 400 kV substation	Iran Saramad Tadbirsazan Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2020	Extension of Shahriar and Rey 230/63 kV substations	Iran Tehran Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2017	MERSAD 400/230 kV substation	Iran West Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2014	Construction of 5*400/132 kv And 2*400/230 Kv Substations	Iran Khorasan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2013	Gotvand Dam 400 kV GIS substation	Iran Gotvand Iran Water And Power Resources Development	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2013	Dalahoo Power Plant 400 kV Switchgear	Iran Farab Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2012	Karun 4 Dam 400 kV GIS substation	Iran Karun, Iran Water And Power Resources Development	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2012	12 Power Plant Substations (Kermanshah, Zanjan, Urmia, Semnan, Mahshahr, Shahrood, Bandarabbas, Iranshahr, Ardabil)	Iran Iran Power Development Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2011	Phase 1 and 2 of 230/33 kV GIS substation for South Kish Steel	Iran South Kish Steel Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2011	400/230 And 132 kV substations	Iran Khorasan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2011	Tabas 400/132 kV substation	Iran Yazd Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2010	Construction of 35 substations in Syria country	SYRIA Electricity Transmission Company Ltd	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2009	Mianeh 400/230/63/20 kV substation	Iran Azarbaijan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2009	Geno 400/63 kV substation	Iran Hormozgan Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2008	Senegal Substations Project	Senegal Electricity Company (SENELEC)	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2006	Increase of capacity of 400/230/20 kV Yazd 2 & Bafgh	Iran Yazd Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2006	Asaluyeh 400/132 kV substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2006	Neyriz 400/63 kV substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2004	Shirino GIS 132/20 kV substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision
2001	Kazerun 230 kV substation	Iran Fars Regional Electric Company	<ul style="list-style-type: none"> • Engineering Consultancy Services • Field Supervision



We Promote Reliability, Quality, Cooperation and Competency



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