Monenco Newsletter

- *Message from Market*
- *New Field*
- *Sample Projects*
- *Events*
- *Clients Perspective*

Message From Market

1. Smart Buildings

World marketed energy consumption was about 524 quadrillion Btu in 2011, of which the residential sector use of energy accounts for 18% (according to EIA). Considering the energy losses in the same sector, only in generation, transmission and distribution we will be encountered with up to 45% of the total consumption which is a noticeable amount.

The concept of "Smart Buildings" was initiated in the early 1980s, introducing the first automated house designed to control the supply and switch off the power to cut the energy consumption as the primary purpose. Nowadays a wide range of devices and applications are emerging to be used at homes, such as, connected thermostats, sensors, meters, control systems, smart appliances, and even self-guided vacuum cleaners to make it possible to cut 100 hours of labor per year for the typical household which will be worth $135 billion in 2025 (according to McKinsey Global Institute).

By benefiting from smart technologies, it has become possible not only to benefit from financial aspects of it, but also to ensure more convenience for the inhabitants. For instance, if no one is at home to shut off the coolers, heaters and lightings, the smart system can diagnose the peak hours and preven the washers and dryers from working or even they can be programmed to cool or heat the house when the owners are expected to be at home.

In this case, smart systems have been designed to provide three principal benefits for the users, namely energy efficiency, safety and security and convenience. As a result, equiping houses with smart technologies, can help reduce the electricity consumption in addition to reducing the home injuries such as fire, leaks and other emergency actions other than cutting the number of labor hours required to carry out the services.

Consequently, deploying smart meters is the initial step forward in implementing energy management, in which Monenco Iran as the consultant of the FAHAM project in Iran is responsible for the engineering and supervision.

Siamak H. Khalaj
Telecommunication and Dispatching Deputy
khalaj.siamak@monenco.com

New Field

2. Repowering

Efficiency is an important factor of power plants, in which the higher efficiency indicates the lower fuel consumption and cost consequently.

Considering old Steam Power Plants, since longevity causes the reduction of the effective life cycle of components as well as plant's efficiency, repowering is a method to raise the efficiency of such plants.

There are different methods of repowering that each of them can be used depending on lifetime of the plant and cost estimation.

Monenco has been recently involved in this new field through "Repowering of Tarash Power Plants" project.

Monenco has started the study from about two years ago and the project was awarded to Monenco in the current year.

In this project, Hot Wind Box method will be used for this plant which is running for the first time in Iran. Also, this project will lead us to bigger projects in the same field.

However, Monenco is responsible for the supervision on the design of the plant which will be accomplished by MitsubishiHitachi (MHPSES).

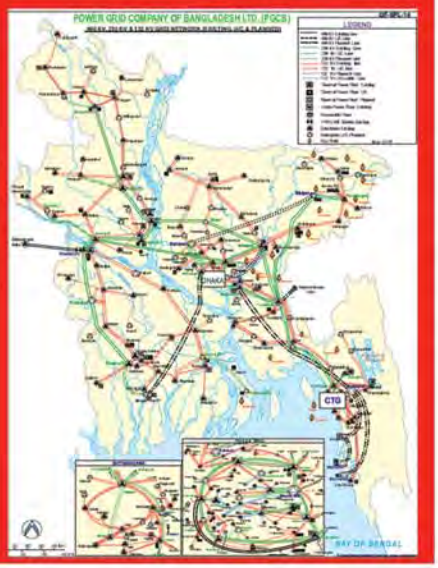
Furthermore, technology transfer is the main intention of this project which will be done by Monenco.

Sample Projects

3. Reliability Study of Bangladesh Power Grid System

Start date: 2015
Client: Power Cell, Power Division, M/O Power, Energy & Mineral Resources, Govt. of Bangladesh
Location: Bangladesh

Description:
The level of reliability of a power grid is required to be substantially enhanced to address the increasing electricity demand, generation planning program, the operational problems and equipment breakdowns. To improve the reliability of the system to international standards, it must be upgraded with required protections so that the system can dispatch the load growth, and provide a safe operation. The system should be able to tolerate any unanticipated shocks. This level of operation should also prevail throughout the rapid development phase.
A reliability-cum-protection study of the Bangladesh power grid system is therefore required to assess system capacity and fragility to identify faults, to recommend solutions & upgradings and to improve the system for a secured, safe and reliable operation.



4. Development of an Appropriate Legal and Functional Structure for Iran Power Sector to Facilitate Power Exchange

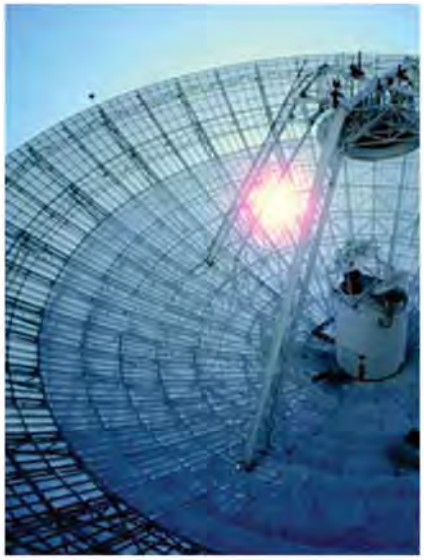
Start date: 2015
Client: Ministry of Energy of Iran
Location: Tehran, Iran

Description:
Looking at the 20-year Vision of the Islamic Republic of Iran and the fourth and fifth development plan in electricity and energy, the importance of Iran's electricity exports and becoming a pole of the power industry in the region appears more important than ever.
Therefore, adequate studies on legal structure and function are necessary in order to facilitate the exchange of electricity within neighboring countries and to present a comprehensive plan for the development and exchange of electricity.

6. Supervision Services on Civil Works of Five Substations in Esfahan

Start date: 2015
Client: Esfahan Regional Electric Company
Location: Esfahan, Iran

Description:
According to the goals set by the Ministry of Energy and the importance of completing the power grid in Esfahan as one of the major industrial cities in Iran, and also in order to enhance the reliability of the electricity network in the country, Esfahan Regional Electric Company has developed the project to construct five substations in Esfahan and Chahar-Mahal Bakhtiari Provinces since 2008. Therefore, feasibility studies and basic design as the first phase, and preparing engineering and tender documents as the second phase were awarded to Monenco. The project was financed by Islamic Development Bank, and Monenco prepared the tender documents and held the tender internationally in compliance with IDB instructions. Therefore, supervision services on civil works of five substations will be the completion phase of this mega project.



7. Oman Water Telecommunication Architecture Study

Start date: 2015
Client: Public Authority for Electricity & Water (PAEW)
Location: Oman

Description:
Water crisis is a global concern. Therefore, managing the optimal use of water sources and supervision on them, particularly in arid areas, is very critical. Since Oman faces the shortage of water, PAEW seeks Monenco as a consultant to improve and expand the telecommunication network of water industry by the means of the above mentioned project. The 'Telecommunication architecture study' project is to design an integrated monitoring system on the telecommunication network and its security. Having designed and supervised similar projects in the national level, Monenco is now responsible for designing the communications network by the edge technology and its proficient experts.

5. Shahjibazar Gas Based Combined Cycle Power Plant

Start Date: 2015
Client: Bangladesh Power Development Board (BPDB)
Location: Bangladesh

Description:
This power plant is one of the biggest power plants in Bangladesh with the capacity of 330 MW.
The project will lead us to enter into power generation market in developing countries, to collaborate with international EPC contractors and to become a progressive consultant for expanding electricity production in Bangladesh.
Therefore, Monenco is responsible for consultancy services as owners engineer for construction of the power plant.

8. Engineering Services of Hormozan Combined Cycle Power Plant"

Start Date: 2015
Client: Mapna Combined Cycle Power Plants Construction & Development Company
Location: Hormozan, Iran

Description:
The main purpose of this project is to generate electricity for Hormozal Aluminum Manufacture (Al-Mahdi Bandar Abbas) which includes two blocks combined cycle with the capacity of 984 MW.
For the time being, one block is under construction and the second block will be designed in near future. The Aluminum Manufacture started its operation 6 years ago with the annual capacity of 147000 tones aluminum. However, due to shortage of electricity, it currently produces 14000 tones aluminum per year. Therefore, Monenco is responsible for the basic and detail design of the power block, BOP and the cooling system.

9. Event

Inauguration of FAHAM Project

On Sep 7th 2015, the implementation of FAHAM project (Iran National Advanced Metering Infrastructure Plan) was held by ıran Energy Efficiency Organization with the presence of Deputy Minister of Energy, Vice Energy Minister for Electricity and Energy, CEO of Tavanir Co., and a group of senior managers of electricity industry of the country, as well as participation of 10 consultants and contractor companies active in the project.

Monenco Iran as the only national consultant in this project, participated in this ceremony. Having its own stand in the fair, Monenco demonstrated its achievements and capabilities in this project as well as smart grids.

Reader Support

If more information is required about the topics, easily indicate the number of the title in the following table and send it to the address below or info@monenco.com.

1	2	3	4	5	6	7	8	9	10

www.monenco.com
info@monenco.com

Follow us on:
Facebook
Linkedin

10. Clients Perspective
Thermal Power Generation Holding Co. (former IPDC), Iran

The first index which would be considered for the sustainable development of an industry is the capability and experience of the engineering firms in that nation. The bigger and more complex the industry is, the more experienced engineering organizations are required.

The Iranian power industry, considering its engineering complexities, has the first grade in the region in terms of the power generation capacity, transmission and distribution networks surface expansion and the variety and number of the subscribers of different sectors.

Monenco Iran is one of the most active and primitive partners beside its noticeable role in Mapna Group value chain, has been providing conventional engineering and consultancy services in addition to its undeniable share in the engineering and design of the new fields of energies as well as the development of the Iranian energy basket.

In row with the Islamic Republic of Iran policies, the role of such consultants in localizing the industries will be critical.

Considering the variety of the services that Monenco Iran is empowered to provide, as one of its clients, we do emphasize on the technological development of the firm and wish its success in this regard.

Mostafa Ali Rabbani
Member of the Board and Executive Manager of the Power Projects

Monenco Iran Consulting Engineers
No.12, Attar St., Vali Asr Ave .,
Vanak Sq.,Tehran, Iran
Tel: +98-2181961 Fax: +98-2188771206

MONENCO CONSULTING ENGINEERS مونتكو للاستشارات الهندسية
P.O. Box: 1139, P.C. 133, Al Khuwair,
Muscat, Sultanate of Oman
Tel: +968 24495610
Oman.Info@monenco.com oman.monenco.com

Monenco Engineers Limited
No. 52, Yedserma St., off IBB way,
Maitama, Abuja, Nigeria
Tel: +234 8085060261- +234 8067391390
Info@monenco.co www.melconsult.com