

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



### Message from Market

#### 1. Gas and Electricity Markets



The price and reliability of energy supplies, electricity and gas in particular, are key elements in energy supply strategy of each country, which depends on a range of different supply and demand conditions, including the geopolitical situation, import diversification, taxation, etc.

Recently, electricity and gas industries are increasingly linked. Gas fired power plants are increasingly used in the generation of electricity, and will be used even more in the future to back up intermittent generation.

Gas and electricity market interacts depends on how markets are designed. In both industries, not only have market designs to address the coordination between the demand and offer of commodity products, but also the coordination of network operation. Hence, different kinds of gas and power market designs is needed that should define how network constraints are coordinated with commodity trading. In Europe, power market design, which has been traditionally based on day-ahead markets, is heavily discussing about relying on capacity markets to coordinate power systems in the long run. However, the Brazilian power system, one of the pioneers of a system based on long-term regulated contracts, is experiencing significant difficulties. It has troubles in the coordination with the gas system, with gas-fired power plants buying gas at a significantly high price, and there are many voices that alert of the high risk of rationing faced by the system due to a lack of investment in generation. So, it seems market designs for gas and power

face the need to choose between two ways forward. On the one hand, difficulties observed in the coordination of both industries suggest the need for more implicit and regulated decision-making. On the other hand, innovation at the end-consumer level requires enough signals for industry participants to adapt. The former will limit the flexibility required by the latter. The major interdependencies between gas and electricity are gas dependency of gas-fired power plants in electricity system and electric dependency of electric-driven compressors in gas system. Because both systems depend on each other, it is of major concern from an energy security viewpoint to investigate how failures triggered in either of the systems propagate from one system to the other. These tight relations are increasing the potential risk for catastrophic events. There are similar challenges in Iran as well, which Gas and Electricity markets work separately without considering their mutual effects to each other. It seems, a comprehensive study on this issue, in order to have unique strategy in energy transferring with neighbor countries, should be considered by the government.

Rahim Zeinali  
System and Energy Study Center Manager  
Zeinali.Rahim@monenco.com

### New Field



#### 2. Boiler Maintenance

Maintenance has the duty to guarantee efficiency and to obtain the highest level of system availability. Generally this is realised through a

decentralised structure to fulfil the set goals through the decisions made by the Company Management. The Maintenance policies proper to the system, guarantees the controlled availability of it. The above approach will lead to the development of an engineering and maintenance strategy which will achieve the right mix of the following:

- Reactive or Breakdown Maintenance
- Scheduled/Routine Maintenance
- Predictive Maintenance

The results of a good maintenance policy are usually measurable in terms of Efficacy and Efficiency.

Efficacy is the term which refers to the obtained results according to continuity and production devices function quality. Thus, the following parameters will be measured; Reliability, Maintainability and Availability.

Efficiency is the term which refers to the obtained results according to economic management. Thus, the following parameters will be measured;

- Intervention Cost
- Spare Parts Lock Up Cost
- Non-production Cost

Due to non-continues nature of major maintenance of large boilers, decentralised structure is the most suitable method since this method normally has ability to gather best maintenance experts to execute all types of repairs and maintenances work in any type of boilers according to any planned program of client. However, Monenco by support of its long-term experiences in different power plants is a competitive claimant in this specialised field of power boilers industries.

## Sample Projects



### 3. Contributing Engineering Services for Transfer of Technology, Procurement, Installation, Commissioning of four Vapor Recovery Units at Ahvaz, Mashhad, Arak Gasoline Storage Tanks

**Start date:** 2014

**Client:** National Iranian Oil Refinery and Distribution Company

**Location:** Ahvaz, Mashhad, Arak, Iran

**Description:**

NIORDC intends to install four vapor recovery units at its gasoline storage tanks at AHVAZ, MASHHAD, ARAK areas.

The purpose of this project is to control and recover of the released volatile organic compound at storage tanks to avoid the emission of harmful substances due to strict emission limits have been defined in country.

However, Monenco is responsible to render engineering services for transfer of technology, procurement, installation, commissioning of four vapor recovery units.



### 4. Basic and Detail Design Engineering of Shirvan 954 MW Combined Cycle Power Plant

**Start date:** 2014

**Main Client:** Iran Power Development Organization

**Location:** Shirvan, Iran

**Description:**

Shirvan combined cycle power plant is located on the South East of Shirvan at a distance of 12 Km from the city of Shirvan in Mashhad. This plant comprises of six gas turbines (v94.2) each with 159 MW capacity and 3 steam units each with 160 MW capacities (Total of 954 MW capacity) also with capacity of 400 kV substation. The required fuel for this plant is gas and gasoline which gas is the main fuel and gasoline considered as an alternative fuel.

However, since the project was stopped by the client two years ago, for the time being, Monenco is responsible to complete the remaining engineering services including Basic & Detail Design Engineering of Civil and Electrical, Instrument and Mechanical System as well as Equipment of Power Plant.



### 7. Engineering, Supervision & Mechanization Services of the Implementation of Distribution Projects in Booshehr Province

**Start date:** 2015

**Client:** Booshehr Electrical Distribution Company

**Location:** Booshehr, Iran

**Description:**

One of the most important issues in operations and management of the plans is implementation for development, modifications, service, repair and maintenance as well as updating and automation & mechanization of distribution networks in line with modern standards and in a safe situation. In this project Monenco is in charge of supervision on operational plans for distribution networks in Booshehr Province based on modern technologies.

The project scope of works are as follow; Engineering services for supervision on investment projects, equipment quality control and mechanization services which include equipment procurement, construction, renewing and reconstruction network and new electrification according to standards and technical criteria. Monenco carries out this project in 11 regions of Booshehr states with 29 supervisors and 5 GIS Operators.





### 5. Design of Zarand 35 MW Small Scale Combined Cycle Power Plant

**Start Date:** 2014

**Main Client:** Mapna Group Investment Projects Division

**Location:** Zarand (Kerman), Iran

**Description:**

The plant is located at south east of Zarand in Kerman and comprises of one unit gas turbine power generation with 25 MW capacity and one unit steam turbine power generation with 10 MW capacity. In addition, the cooling system is Air Cooled Condenser (ACC) type.

However, Monenco's scope of work is responsibility of detail design of civil works, Mechanical and Electrical BOP systems as fuel section, steam part, water and waste water treatment systems and preparation of relevant technical documents, integrated management of 3D model, preparing the project final book as well as hazop studies.



### 6. Comprehensive Studies to Reorganize & Development of Transmission and Distribution Network in Arvand Free Zone

**Start date:** 2015

**Client:** Arvand Free Zone

**Location:** Abadan and Khorramshahr, Iran

**Description:**

The project includes two phases as follow;

1- Comprehensive Studies for Power Supply of Khorramshahr and Abadan industrial zones:

- Data gathering of Electrical Network in Industrial zones
- Surveying and analyzing the collected data of Industrial zones
- Load forecasting of industrial zones
- Power System Studies of industrial zones
- Power System Studies for industrial zones connection to upstream network

2- Comprehensive Studies for distribution network of Khorramshahr and Abadan industrial zones:

- Data gathering of distribution Network in Industrial zones
- Load and Network modeling
- Electrical calculations and preliminary designs
- Energy and Load forecasting of industrial zones
- Recommendation for the best designs
- Reliability calculations
- Protection system designs



### 8. Preparation of Comprehensive Telecommunication Plan for Islamic Republic of Iran Railway Company

**Start Date:** 2015

**Client:** Ministry of Roads and Urban Development, Islamic Republic of Iran Railway Company

**Location:** Tehran, Iran

**Description:**

The purpose of this project is to provide the client with the road map for telecommunication infrastructure including transmission, data, telephone, CCTV, Radio Trunk, etc.

Preparation of a template for telecommunication plans will be the main objective of this project.

Therefore, Monenco is responsible for the following scope of works;

- Current network status analysis
- Target definition and guide line proposition to meet the target
- Preparation of road map and task definition to meet the road map & SWOT matrix analysis
- Prioritized the task based on technical and financial issues



## 9. Event

### ■ 20<sup>th</sup> International Oil Show

Monenco Iran attended in the 20th International Oil Show (Oil, Gas, Refining and Petrochemical) which is one of the most significant oil and gas events in the world, particularly in Middle east in terms of the number of participants and its diversity. This exhibition was held at Tehran International Permanent Fairground from May 6th to 9th 2015.

The presence of 670 famous foreign companies as well as 1034 domestic producers and industrialists provide a good chance for mutual cooperation in view of signing contracts and agreements, identifying potential talents as well as discussion and information exchanges regarding the modern technologies and optimum usages of oil resources in oil, gas, refining and petrochemical.



## 10. Clients Perspective Oman Electricity Transmission Company (OETC)



The consultant should have the capability and ability to conduct a service in different fields such as power system, design and supervision. Engineering ethics is the most important point that consultant company should have and that will reflect the quality of the work. In addition, meeting the clients requirements and respecting the completion time are very important issued to maintain the consultancy business.

From our last visit to Tehran, we had many meetings with different engineers from different fields that showed us Monenco capability in consultancy services.

Monenco has the capability for the consultancy services due to lot of experiences and qualified staff.

In addition, Monenco deals with well-known companies inside and outside Iran and have many clients in Oman which reflects how they are strong in the field of consultancy services including power system, communications and others.

### Oman Electricity Transmission Company (OETC)

Sultan Ahmed Mabrook Al Rawahi  
Operating Planning Manager

### 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](mailto:info@monenco.com).

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

[www.monenco.com](http://www.monenco.com)  
[info@monenco.com](mailto:info@monenco.com)

Follow us on:  
 Facebook  
 LinkedIn



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



P.O. Box: 1139, P.C. 133, Al Khuwair,  
Muscat, Sultanate of Oman  
Tel: +968 24495610  
[Oman.Info@monenco.com](mailto:Oman.Info@monenco.com) [oman.monenco.com](http://oman.monenco.com)



No. 52, Yedserma St., off IBB way,  
Maitama, Abuja, Nigeria  
Tel: +234 8085060261- +234 8067391390  
[Info@monenco.co](mailto:Info@monenco.co) [www.melconsult.com](http://www.melconsult.com)