









AaliNaam Engineering & Design Co.



Total Solution for Projects





- **ANEDCO** stands for AaliNaam Engineering and Design Company, a private company established in 2002.
- **ANEDCO** is one of the Iranian companies in the field of oil, gas and petrochemical industries as well as general industries.
- **ANEDCO** has been ranked in 2013 from Management and Planning Organization of Iran with rank 1 in Oil, Gas and Petrochemical industries services, rank 3 in Oil and Gas pipelines and rank 3 in installation, electrical & mechanical services.
- Nowadays, **ANEDCO**'s working capacity is 175,000 Man-Hour per year, but depends on the nature of projects, specially in Iran is capable to extend this capacity up to 225,000 Man-Hour per year.





- 100% of **ANEDCO**'s share belongs to expert managers and engineers that work in Iran oil, gas and petrochemical consulting engineering companies.
- **ANEDCO** is able to work with international companies as a joint venture or through consortium concept.

Fields of Activities



- Oil & Gas Industries
- Refinery Industries
- Petrochemical Industries
- Industrial Water Treatment Systems
- Industrial Wastewater Treatment Systems
- Utility & Offsite Facilities (Including Power, Steam, Air, Nitrogen, Tank Farm, etc.)

Scope of Services



- Concept Assessment
- Feasibility Study
- Basic Design
- Detail Design
- Tendering
- Procurement and Expediting
- Construction, Supervision and Management
- Training and Pre-Commissioning
- Commissioning and Start-up
- Management Contracting (MC)

Engineering Services



Process

- Process Simulation
- Process Flow Diagram Preparation
- P&ID Preparation
- HAZOP Study
- Equipment Selection & Datasheet Preparation
- Operating and Maintenance Manual
- Equipment Manual
- Safety and Fire Prevention
- HVAC System Design
- Material Requisition Preparation
- Review of Vendor Documents

Engineering Services (cont.)



Piping

- Plant Layout
- Plant Location, Route Selection & Survey
- Isometric Drawing
- PDMS Modeling
- Material Requisition Preparation
- Review of Vendor and Shop Drawings

Engineering Services (cont.)



- Construction Drawing
- Construction Specification and Maintenance Test Sheets
- Material Requisition Preparation
- Review of Vendor and Shop Drawings

Mechanics

- Construction Drawing
- Equipment Selection & Datasheet Preparation
- Material Requisition Preparation
- Review of Vendor and Shop Drawings

Engineering Services (cont.)



Electrical & Instrumentation

- Control System Study
- Power Distribution
- Corrosion Control and Cathodic Protection
- Material Requisition Preparation
- Review of Vendor and Shop Drawings

Planning and Project Control Services



Planning and project control is one of the most critical elements in finalization of all types of projects from small to large size. In planning department, **ANEDCO** organizes an efficient system to plan and control the projects by providing following services based on the nature of the projects:

- Preparation of master schedule
- Development of organization chart
- Preparation of graphical display for time schedule, equipment allocation plan, etc. in numerous and simple types
- Preparation of gaunt charts

Planning and Project Control Services (cont.)



- Preparation of time schedule and monitoring programs system as CPM/PERT
- Preparation of construction program process charts
- Preparation of maintenance and repair schedule and other activities required according to nature of project





- Preparation of tender documents including terms and conditions, relevant specifications, scopes of work, etc.
- Issuing preliminary invitation to bid
- Bid Evaluation
- Evaluating and ranking of construction contractors capability
- Negotiation with invited contractor
- Contract management services

Procurement Services



- Financing Services
- Vendor evaluation and pre-qualification
- Technical Bid Analysis (TBA)
- Commercial Bid Analysis (CBA)
- Inspection
- Expediting
- Material Handling
- Packing
- Custom Clearance
- Transportation and delivery

Design, Construction, Supervision and Management



- In turn key project, when the contractor is responsible for the detail engineering, **ANEDCO** can provide assistance services both in design as well as construction.
- Furthermore, for the construction/erection phase of projects, **ANEDCO** technical staff are able to perform supervisory and management functions independently or in cooperation with the client staff.

Commissioning & Start-Up Services



- Checking the plant if it is completed based on the process drawings
- Make sure that each system is properly installed
- Check all test records to verify that all systems have been properly tested
- Ensure that all supplementary equipments, supporting services and utilities are completed
- Checking the operating conditions to ensure that the entire system is ready to be commissioned
- Verifying that all safety provisions are duly observed
- Plan and supervise all pre-commissioning tests

Commissioning & Start-Up Services (cont.)



- Plan and supervise the commissioning operations and advise corrective measures when required
- Train the operational personnel via the start-up and commissioning procedures
- Assisting the operational personnel for commissioning of each system in an orderly and efficient manner

ANEDCO Organization Chart





Members of Management Board



| Name | Position | Born | B.Sc. | M.Sc. | Related Experience (Years) |
|----------------------------------|-------------------------------|------|--------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------|
| Reza Golkari | Managing Director | 1968 | Chemical Engineering, 1990, Shiraz University | Civil Engineering (Environmental), 1996, Tarbiat Modarres University | 27 |
| Morteza Golkari | Vice Chairman of the Board | 1966 | Environment Engineering, 1990, Tehran University | Civil Engineering (Environment), 1994, Shiraz University | 28 |
| Peyman Tavangarzamin | Engineering Manager | 1967 | Chemical Engineering, 1990, Shiraz University | Chemical Engineering, 1996, Tehran University | 23 |
| Behrooz Arshadi | Engineering Manager | 1959 | Chemical Engineering, Petrochemical | | 26 |
| Habib Ghadamgahi Khorasani | Member of the Board | 1963 | Environment Engineering, 1990, Tehran University | Civil Engineering (Environment), 1996, Shiraz University | 26 |

www.anedco.com

Company's Personnel



Distribution of Academic Degrees



www.anedco.com

Company's Personnel



Experts Distribution per Departments



- Management
- Procurement & Proposal
- Process
- Piping
- Electrical & Instrumental
- Mechanical
- Structure
- Planning & Project Control

HSE

Staff (Including IT)

QC

Quality Policy



Our Mission:

ANEDCO has been established in Shiraz at 2002 and its mission is to have a significant share in providing engineering and procurement services, construction and equipment installation supervision and managing domestic and overseas projects especially in oil, gas and petrochemical industries.

Outlook:

Our company is considering to show its great capabilities to fulfill domestic and overseas projects according to national and international standards, relying on its human resource, up-to-date software and hardware equipments and its precious experience which is gained through various projects.

Quality Policy (cont.)



Our Objectives:

- 1. Improving personnel's technical knowledge and skills and paying attention to training.
- 2. Provide services based on latest technical standards, health, safety and environmental (HSE) regulations.
- 3. Creating motivational mechanisms and an appropriate condition for personnel to interact their ideas with each other in order to improve the quality of services continuously.
- 4. Increasing domestic and foreign customers satisfaction.
- 5. Effective and continuous participation in the market using the infrastructure created by the company.

Quality Policy (cont.)



- 6. Reviewing and monitoring company's objectives and quality policy to ensure continuous improvement of product quality.
- To implement quality assurance complying with ISO 9001:2008, **ANEDCO** management shall authorize the quality improvement director to monitor the company's quality system continuously in order to assure its sufficiency and effect.

List of Main Accomplished and In-Hand Projects



| ltem | Project Description | Start Date | Finish Date |
|------|------------------------------------------------------------------------|------------|-------------|
| 1 | Zagros Methanol Filtration Package | 15.12.2019 | 12.02.2021 |
| 2 | Acid Gas Enrichment of GTU5 | 24.11.2018 | 23.01.2020 |
| 3 | Purge Gas Recovery Unit in Abadan Catalytic Refinery Unit | 08.02.2015 | 08.08.2016 |
| 4 | Oil Product Terminal in Area 93B, Bandar Imam | 11.11.2014 | 11.11.2015 |
| 5 | Flare Managing, Desalting and Connection Line Design | 07.10.2014 | 07.06.2015 |
| 6 | Acid Gas Enrichment of GTU2 | 03.08.2013 | 01.02.2014 |
| 7 | Revamping of Marun #3 Production Unit Control System and Instrument | 24.04.2012 | 23.02.2014 |

List of Main Accomplished and In-Hand Projects (cont.)



| Item | Project Description | Start Date | Finish Date |
|------|--------------------------------------------------------------------------------------------------------------------------|------------|-------------|
| 8 | Detailed Technical Survey of Urea-1 Plant of Razi Petrochemical Complex for Revamping & Capacity Increasing | 08.12.2012 | 07.04.2013 |
| 9 | Feasibility Study for Establishment of Oil Production Storage Tanks in Bandar Imam Special Economic Zone, Area 93B | 21.08.2012 | 10.09.2012 |
| 10 | Khangiran Gas Treating Plant Instrumentation and Control System Revamping | 25.02.2012 | 27.07.2012 |
| 11 | Revamping of Gachsaran Oil & Gas Plants Ignition Systems | 30.11.2011 | 29.05.2012 |
| 12 | Gachsaran Olefin Plant | 18.10.2010 | 20.03.2015 |
| 13 | Mobin Water Treatment Plant | 29.08.2010 | 29.10.2010 |
| 14 | Persian Gulf Submarine 52" Pipeline Repair | 30.06.2008 | 20.03.2009 |

List of Main Accomplished and In-Hand Projects (cont.)



| ltem | Project Description | Start Date | Finish Date |
|------|------------------------------------------------------------------------------|------------|-------------|
| 15 | Revamping of Morvarid Sea Water Intake and Pumping Station Facilities | 11.06.2007 | 20.03.2009 |
| 16 | Razi Purge Gas Recovery Unit | 01.09.2007 | 11.08.2011 |
| 17 | Lamerd Gas Condensate Refinery | 13.11.2005 | 12.05.2006 |
| 18 | Review & Revamping of Detail Engineering Documents for R-134a Pilot Plant | 14.09.2005 | 12.04.2006 |
| 19 | Iran Central Oil Fields Development | 06.07.2005 | 05.01.2006 |
| 20 | Kharg Water Treatment Plant | 22.05.2003 | 19.03.2005 |
| 21 | SIRI Instrument Revamping Project | 23.07.2001 | 21.01.2003 |
| | | | |
| | | | |
| | | | |

www.anedco.com

Zagros Methanol Filtration Package



Owner: Zagros Petrochemical Company Location: Asalouyeh, Boushehr Contract Type: Engineering & Procurement Services (EP) Start Date: 2019 Project Duration: 14 Months Status: In Progress

Zagros Methanol Filtration Package (Cont.)



Project Description:

ZAGROS Petrochemical Co. (Owner) intends to install a Filtration package with a design capacity of 320m3/h to filter suspended solids (mainly Iron and Copper debris and other impurities) from its crude methanol stream.

Zagros Methanol Filtration Package (Cont.)



Scope of Work:

- Preparation and delivery of the basic engineering package
- Performing detail engineering and preparation of tender documents for construction and installation works at site
- Supply and delivery of materials including all mechanical equipment and electrical/instrumental devices, commissioning and operating spares
- Performing the supervision on construction, installation, pre-commissioning and commissioning services.

Acid Gas Enrichment of Gas Treating Unit No. 5





Owner: Shahid Hashemi Nejad Gas Processing Company Location: Khangiran, Sarakhs Contract Type: Site Supervision and Managing Contractor (MC) Start Date: 2018 Project Duration: 14 Months Status: Accomplished

Acid Gas Enrichment of Gas Treating Unit No. 5 (Cont.)



Project Description:

The gas treating plant for the Sarakhs-Neka gas supply project is designed to process sour gas and to provide 1,180,000 NM³/hr of gas to the Sarakhs-Neka pipeline.

The plant includes the following units:

- Five DEA Acid Gas Removal Units
- □ Five DEW Point Control Units
- Three Clans Sulfur Storage Facility
- Supporting Utility for All of the Above

Shahid Hashemi Nejad Gas Processing Company defined a project for acid gas enrichment of Gas Treating Unit No. 5 (GTU5).

Acid Gas Enrichment of Gas Treating Unit No. 5 (Cont.)





Scope of Work:

- □ Site Supervision
- Managing Contractor (MC)

www.anedco.com

Purge Gas Recovery Unit in Abadan Catalytic Refinery Unit





Owner: Abadan Oil Refinery Company Location: Abadan, Khoozestan Contract Type: Engineering, Procurement, Construction and Commissioning Services (EPCC) Start Date: 2015 Project Duration: 18 Months Status: Accomplished

www.anedco.com

Purge Gas Recovery Unit in Abadan Catalytic Refinery Unit (Cont.)



Project Description:

- This project is defined to recover the flare gases of flares 2, 3 in Catalytic Refining Unit of Abadan Refinery and reusing the recovered gas as the fuel gas.
- Branched flare gas is designed to be routed to the recovery unit (FGRU) under controlled flow (design flow = 2542 kg/hr). In FGRU, the gas will be knocked out and pressurized and then added to refinery's fuel gas system.
- Pressurizing two parallel systems are designed including: a compressor system (2 liquid ring compressors + 1 spare) and an ejector system (2 ejectors + 1 spare).
- The design is performed on the basis of the selectivity of operating each of compressor/ ejector systems or both of them, based on the available flow and pressure of flare gas.

Purge Gas Recovery Unit in Abadan Catalytic Refinery Unit (Cont.)



Scope of Work:

- Feasibility Study of the project based on the existing plants process information and find out the optimum process design
- Preparation and delivery of the basic engineering package
- Performing detail engineering and preparation of tender documents for construction and installation works at site
- Supply and delivery of materials including all mechanical equipment and electrical/instrumental devices, commissioning and operating spares
- Performing the construction, installation, pre-commissioning and commissioning services.

Oil Product Terminal in Area 93B, Bandar Imam





Owner: Iran Marin Services Company **Location:** Bandar Imam Special Economic Zone Contract Type: Engineering, Procurement, Construction and Commissioning Services (EPCC) Start Date: 2015 **Project Duration:** 12 Months Status: Accomplished

www.anedco.com
Oil Product Terminal in Area 93B, Bandar

Imam (cont.)



Project Description:

Iran Marine Services terminal is located in area 93B of Bandar Imam for oil products storage and transportation including of Gas Oil, Fuel Oil and Naphta. Transportation process from/to this terminal is done with road truck and oil ships. Iran Marine Services company is decided to store 12000 tons of oil products in this terminal

ANEDCO is responsible for Engineering, Procurement, Construction and Commissioning Services.

Oil Product Terminal in Area 93B, Bandar

Imam (cont.)



Scope of Work:

- Site Visit, Data Gathering
- Basic Engineering Design
- Detail Engineering Design
- Installation and Construction
 Supervision



Flare Managing, Desalting and Connection Line Design



Owner: Parsian Gas Refining Company (PGRC) Location: Mohr, Iran Contract Type: Engineering Services (E) Start Date: 2014 Project Duration: 8 Months Status: Accomplished

Flare Managing, Desalting and Connection Line Design (cont.)



Project Description:

- This project is consisting of 3 parts including: Desalting, Flare Managing and Connection Line Design.
- Desalting
- As the salinity of plant's feed (receiving from Tabnak, Vavary and Shanul gas fields) is gradually increasing. The scope of this part of project is designing a desalter package for each of No. 400, No. 500 and No. 103 units. Desalter package will be located after the stabilizer in each unit. The design target is to decrease the salinity to the acceptable range based on IOM regulations and international standards.
- □ Flare Managing
- The scope of this part is to review and redesign of the complete flare system in units 400, 500 & 140 and finding solution for defined items, mainly including:

Flare Managing, Desalting and Connection Line Design (cont.)



- Review of existing flares and finding the best solution for decreasing the required purge gas.
- Redesign of flaring network and flare headers based on HP/LP detachment concept.
- Complete revamping of flares ignition system and pilots.
- Connecting the cold vent of compressor station to existing flare system.
- □ Connection Line

This part includes design of a connecting line for connecting unit 100 (in parsian-II Plant) to the existing connection line between units 400 and 500 (in parsian-I Plant) considering all process and control requirements and routing limitations.

Flare Managing, Desalting and Connection Line Design (cont.)



Scope of Work:

- Feasibility Study of the project based on the existing plants process information and find out the optimum process design in each part
- Preparation and delivery of the basic engineering package in each part
- Performing detail engineering and preparation of tender documents for construction and installation works at site in each part

Acid Gas Enrichment of Gas Treating Unit No. 2





Owner: Shahid Hashemi Nejad Gas Processing Company Location: Khangiran, Sarakhs Contract Type: Engineering Services (E) Start Date: 2013 Project Duration: 6 Months Status: Accomplished

Acid Gas Enrichment of Gas Treating Unit No. 2 (Cont.)



Project Description:

The gas treating plant for the Sarakhs-Neka gas supply project is designed to process sour gas and to provide 1,180,000 NM³/hr of gas to the Sarakhs-Neka pipeline.

The plant includes the following units:

- Five DEA Acid Gas Removal Units
- □ Five DEW Point Control Units
- Three Clans Sulfur Storage Facility
- Supporting Utility for All of the Above

Shahid Hashemi Nejad Gas Processing Company defined a project for acid gas enrichment of Gas Treating Unit No. 2 (GTU2).

Acid Gas Enrichment of Gas Treating Unit No. 2 (Cont.)





Scope of Work:

- Conceptual Design of the project based on the existing plant process information and find out the optimum process design
- Preparation and delivery of the basic engineering package
- Performing detail engineering and preparation of scope of work and tender documents for PC contract

www.anedco.com

Revamping of Marun #3 Production Unit Control System and Instrument





Owner: Marun Oil & Gas Company (Subsidiary of NISOC) Location: East of Ahvaz (60 Km), Iran **Contract Type:** Engineering, Procurement, Construction & Commissioning Services (EPCC) Joint Venture: Vesal Control Start Date: 2012 **Project Duration:** 22 Months **Status:** Accomplished

www.anedco.com

Revamping of Marun #3 Production Unit Control System and Instrument (Cont.)



Project Description:

National Iranian South Oil Company (NISOC) owns and operates several large Oil Fields in Southwest of Iran through its subsidiary operating companies (Karoon, Marun, Masjid Soleyman, Aghajari & Gachsaran Oil & Gas Production Companies).



Revamping of Marun #3 Production Unit Control System and Instrument (Cont.)



- One of these companies is Marun Oil & Gas Production Company which includes Marun-1~6, Koupal and Mansouri plants. Marun-3 Production Unit (MN-3 PU) is one of this company subsidiaries located in 60 km east of Ahwaz.
- Owner (Marun Oil & Gas Production Company) intends to renovate existing control system and field Instruments in Marun-3 old surface facilities with state of the art new control systems and related field instruments. This project is also including revamping & renovation of all instrument items (if required), replacement of the control room and design of new DCS control system.
- ANEDCO performs mentioned services of the project in association with Vesal Control company.

Revamping of Marun #3 Production Unit Control System and Instrument (Cont.)

Scope of Work:

- Site Visit & Data Gathering
- Updating of the Existing P&ID's
- Basic Engineering Services According to New Control System Design
- Detail Engineering Services According to New Control System Design
- Basic and Detail Engineering Services for F&G System for New Control Room
- Preparation of Material Requisition for Required Items
- Procurement and Transportation of Purchased Items
- Construction, Installation, Pre-Commissioning and Commissioning Services

AaliNaam Engineering & Design Co.

Detailed Technical Survey of Urea-1 Plant of Razi Petrochemical Complex for Revamping & Capacity Increasing





Owner: RAZI Petrochemical Complex Location: Bandar Imam Khomeini, Iran **Contract Type:** Engineering Services (E) Joint Venture: NIIK, Russia Start Date: 2012 **Project Duration:** 3 Months Status: Accomplished

www.anedco.com

Detailed Technical Survey of Urea-1 Plant of Razi Petrochemical Complex for Revamping & Capacity Increasing (Cont.)

Project Description:

- RAZI Petrochemical Co. (located in Bandar Imam Khomeini, Iran) is a large and old petrochemical complex including Ammonia No.1,2,3, Urea No.1,2, Sulfur, Acid and Gas Purification plants.
- Urea-1 plant is one of the first production plants of RAZI PC established at 1960s with the initial capacity of 500,000 T/Y that's increased during two steps of revamping to 700,000 and then 875,000 T/Y respectively. The basis of production process in Urea-1 plant is to convert the anhydrous liquid ammonia (make-up ammonia from the ammonia plant and recycled ammonia from the urea plant) and carbon dioxide gas (from the ammonia plant) to Prill Urea using high pressure urea synthesis process.

Detailed Technical Survey of Urea-1 Plant of Razi Petrochemical Complex for Revamping & Capacity Increasing (Cont.)



- Urea-1 plant is out of service since about 2003. So that RAZI Petrochemical Complex has defined a project for detailed technical survey of the plant and perfect technical/economical studies for revamping and commissioning of Urea-1 plant and making complete technical report and economical estimation for this revamping and selection of the best production process optimum capacity (either the current capacity or increasing in capacity).
- ANEDCO will accomplish the project services via "Research & Design Institute of Urea & Organic Synthesis Products (NIIK), Russia".



Detailed Technical Survey of Urea-1 Plant of Razi Petrochemical Complex for Revamping & Capacity Increasing (Cont.)

Scope of Work:

- Site Visit and Data Gathering.
- Inspection and Necessary Tests of All Fixed Equipment
- Inspection and Necessary Tests of All Rotary Equipment and Machinery
- Inspection and Necessary Tests of All Electrical Items
- Inspection and Necessary Tests of Control System and Instrument Items
- Inspection and Necessary Tests of ESD and F&G Systems
- Inspection and Necessary Tests of All A/G and U/G Piping, Fitting and Valves
- Inspection and Necessary Tests of All Civil & Structure Items
- Review of the Plant Process and Propose the Best Process and Optimum Capacity
- Economical Study and Price Estimation for Proposed Options

www.anedco.com

Feasibility Study for Establishment of Oil Product Storage Tanks in Bandar Imam Special Economic Zone, Area 93B & 58A





Owner: Iran Marin Services Company Location: Bandar Imam Special Economic Zone Contract Type: Feasibility Study Start Date: 2012/2013 Project Duration: 6 Months Status: Accomplished

www.anedco.com

Feasibility Study for Establishment of Oil Product Storage Tanks in Bandar Imam Special Economic Zone, Area 93B & 58A (cont.) AaliNaam Engineering & Design Co.



Project Description:

Iran Marine Services company is responsible for transporting of oil product by truck and wagon to ship and then to destination. Now, the Iran Marie Services company doesn't have oil terminal in Bandar Imam and the oil product is directly loaded to ship by truck and wagon.

Because of that, they can't control between truck and wagon by ship and decided to establish oil product storage tanks.

ANEDCO is responsible for economical and technical feasibility study.

Feasibility Study for Establishment of Oil Product Storage Tanks in Bandar Imam Special Economic Zone, Area 93B & 58A (cont.) AaliNaam Engineering & Design Co.

طراحي ومهندسي گروه صنعتي عالي ناه

Scope of Work:

- Site Visit, Data Gathering and п **Report Preparation**
- Preparation of Plot Plan
- Preparation of Required P&IDs
- Preparation of Building Drawings
- Technical, Economical and Commercial Survey and **Preparation of Report**



Khangiran Gas Treating Plant Instrument and Control System Revamping





Owner: Shahid Hashemi Nejad Gas Processing Company Location: Khangiran, Sarakhs Contract Type: Engineering Services (E) Start Date: 2012 Project Duration: 6 Months Status: Accomplished

Khangiran Gas Treating Plant Instrument and Control System Revamping (cont.)

Project Description:

The gas treating plant for the Sarakhs-Neka gas supply project is designed to process sour gas and to provide 1,180,000 NM³/hr of gas to the Sarakhs-Neka pipeline.

The plant includes the following units:

- Five DEA Acid Gas Removal Units
- Five DEW Point Control Units
- Clans Sulfur Storage Three П Facility
- Supporting Utility for All of the Above







شركت طراحي ومهندسي گروه صنعتي عالي نام AaliNaam Engineering & Design Co.

Khangiran Gas Treating Plant Instrument and Control System Revamping (cont.)



Shahid Hashemi Nejad Gas Processing Company defined a project for instrumentation and control system revamping of GTU1.

Scope of Work:

- Site Visit, Data Gathering and Preparation of DTS Reports
- Detail Engineering Design
- Preparation of Scope of Work and Tender Documents for PC Contract





Owner: Gachsaran Oil & Gas Company (Subsidiary of NISOC) Location: Gachsaran Oil & Gas Stations Contract Type: Engineering Services (E) Start Date: 2011 Project Duration: 6 Months Status: Accomplished



Project Description:

- GACHSARAN OIL & GAS Company (Subsidiary of National Iranian South Oil Company: NISOC) has defined a project for complete revamping of ignition and control systems of stack flares, oil heaters, gas preheaters and glycol reboilers in its subsidiary oil & gas plants using the best and the most modern technology.
- The plants and relevant revamping systems are located in Kohkilooyeh & Boyer Ahmad, Khuzestan and Booshehr provinces and are including:
- Gachsaran LP-I Gas Station (Glycol Reboiler, Gas Preheater)
- Gachsaran LP-II Gas Station (Flare, Reboiler, Preheater)
- Gachsaran LP-III Gas Station (Flare, Reboiler, Preheater)



- Gachsaran LP-IV Gas Station (Flare, Reboiler, Preheater)
- Gachsaran HP Gas Station (Flare, Preheater)
- Siahmakan HP Gas Station (Flare, Preheater)
- Gachsaran-II Desalting Plant (Flare)
- Gachsaran-IV Oil Station (Flare)
- Ragsefid-II Gas Station (Flare, Preheater, Reboiler)
- Ragsefid-II Desalting Plant (Flare, Oil Heater)
- Bibihakimeh-I Gas Station (Flare, Preheater, Reboiler)
- Bibihakimeh-II Gas Station (Flare, Preheater, Reboiler)



- Bibihakimeh-I Oil Station (Flare)
- Bibihakimeh-II Desalting Plant (Oil Heater)
- NGL-900 Plant (Flare, Oil Heater)
- Pazanan-II Desalting Plant (Flare, Oil Heater)
- Pazanan-II Oil Station (Flare)
- Binak Gas Station (Flare)
- Nargesi Oil Station (Flare)





Scope of Work:

- Site Visit, Data Gathering and Preparation of Complete Site Statuses and DTS Reports
- Comparison of all Existing Ignition Systems and Preparation of Relevant Reports to Choose the Best System
- Complete Conceptual, Basic and Detail Engineering Design
- Preparation of Material Take-Off (MTO) for All New/Relocated Items
- □ MR Preparation
- Economical Studies and Price Evaluation for PC Contract
- Preparation of Scope of Work and Tender Documents for PC Contract

Gachsaran Olefin Plant





Owner: Gachsaran Petrochemical Company (GPC) Location: Gachsaran Contract Type: Engineering, Procurement, Installation and Construction Supervision Services (EP) Start Date: 2010 Project Duration: 22 Months **Status:** In Progress

www.anedco.com

Gachsaran Olefin Plant (cont.)



Project Description:

GACHSARAN OLEFIN PLANT is located at Gachsaran petrochemical complex in Gachsaran, Iran. The plant is designed to produce 1000,000 ton/year. The ethane feed is supplied from 2nd BIDDBOLAND refinery by rate 1,270,000 ton/year. GACHSARAN OLEFIN PLANT is produced ethylene with 99.5% Min. and Hydrogen with 99.99% Min. The by-products of the plant are hydrogen rich gas (fuel gas), C_3^+ , and light oil (Gasoline). The plant includes process unit and storage tanks divided into following units:

- Cracking Furnaces
- Hot Section and Dilution Steam Generation
- LP and HP cracked gas compression, caustic wash, drying and spent caustic treatment
- Ethylene Recovery and Purification

Gachsaran Olefin Plant (cont.)



- Propylene and Ethylene Refrigerant Cycles
- Steam, Blow Down, Cooling Water, Fuel Gas and Other Utilities
- Ethylene Storage Tank, C₃⁺ Storage Tank, Ethane Storage Tank, Off-spec Ethylene Storage Tank
- **Fresh Caustic, Wash Oil, Sulfuric Acid and Methanol Storage Tanks**

Scope of Work:

- Complete Basic and Detail Engineering Design (in separated contracts)
- □ MR Preparation
- Vendor Documents Checking
- Procurement
- Installation and Construction Supervision

Mobin Water Treatment Expansion Plant





Owner: Mobin Petrochemical Company Location: Assaluyeh Contract Type: Engineering Services (E) Start Date: 2010 Project Duration: 6 Months Status: Accomplished

Mobin Water Treatment Expansion Plant (cont.)



Project Description:

The project consists of following units:

- Condensate Polishing Unit and Relevant Pumps, Tanks and Exchangers
- Demineralization Unit and Relevant Pumps and Tanks

Scope of Work:

Detail Engineering

Persian Gulf Submarine 52" Pipeline Repair





Owner: Iranian Oil Terminal Company (IOTC) Location: Genaveh port & Kharg Island Contract Type: Engineering Services (E) Start Date: 2008 Project Duration: 9 Months Status: Accomplished

Persian Gulf Submarine 52" Pipeline Repair (cont.)



Project Description:

- The Iranian Oil Terminal Company (IOTC) has issued a call for Tender for Genaveh to Kharg 52" pipeline repair feasibility study project. It was tended to repair and modify existing pipeline which is located in Persian Golf.
- Company has appointed a contract to perform engineering of the project to issue some methods for repairing with or without shutdown that should be fully compliance with sea environment, safety & economic.

Persian Gulf Submarine 52" Pipeline Repair (cont.)



Scope of Work:

- Site survey & under water inspection
- As built drawing for damage points
- Review the different method for repair of 52" crude pipe line including of advantage, disadvantage, environmental effect, execution problem and etc.
- Propose best method for repair of 52" offshore/onshore crude transferring pipeline.




Owner: Morvarid Petrochemical Company (5th Iran Olefin Plant) Location: Assaluyeh Port Contract Type: Engineering, Procurement and Construction Services (EPC) Start Date: 2007 Project Duration: 12 Months Status: Accomplished



Project Description:

- A new sea water pump station is designed to provide cooling water for Morvarid petrochemical company (5th Iran Olefin Plant).
- According to relocation of the water intake pump station, several major changes are occurred in the project and influenced the project concepts. So a new design is provided by ANEDCO





The plant consists of following facilities:

- Sea water pump station with 30000 m³/hr capacity and 12 bar
- Sea water filtration (on line continuous filtration) with 30000 m³/hr capacity and 12 bar
- □ Sea water chlorination
- Two weir boxes and surge system
- Instrumentation system
- Power generation and distribution system



Scope of Work:

- Site investigation for all activities in all areas and preparation of reports for civil and construction, electrical and instrumentation and mechanical revamping
- Engineering services (ES) for sea water intake and its pumping station facilities including:
 - Process review and modification of sea water intake facilities
 - Hydraulic design of weir boxes for process & utility areas
 - Design and modification of instrumentation and automation systems
 - Civil design of equipment foundations
 - Civil design of steel structures
 - Hydraulic and Civil design of culvert
 - Design of piping system



- Procurement services and purchase of all new items including:
 - Pumps
 - PLC
 - Piping
 - Power generation and distribution system
 - Chlorination generation and injection package
 - Weir box, surge system, and outfall accessories

Razi Purge Gas Recovery Unit





Owner: Razi Petrochemical Company (RPC) Location: Bandar Imam Contract Type: Engineering and Procurement Services (EP) Start Date: 2006 Project Duration: 25 Months Status: Accomplished

Razi Purge Gas Recovery Unit (cont.)



Project Description:

- Razi petrochemical complex has decided to boost Ammonia production in Razi No. 1 and/or No. 2 Ammonia plants by incorporating of hydrogen recovery from synthesis purge stream. The target is to recover as much as possible of Hydrogen and Ammonia contents from synthesis purge gas which is venting or injecting to furnace fuel at present.
- Recovered Hydrogen will be returned to synthesis loop and mixed with synthesis makes up gas. Increased capacity will require additional process air. Extra process air could be supplied by adding a common parallel air compressor for both plants.

The plant consists of the following process units:

- Pretreatment Unit
- Membrane Recovery Package
- Process Air Compressor

Razi Purge Gas Recovery Unit (cont.)



Scope of Work:

- Feasibility Study of the project based on the existing plants process information and find out the optimum process design
- Preparation and delivery of the basic engineering package
- Performing detail engineering and preparation of tender documents for construction and installation works at site
- Supply and delivery of materials including all mechanical equipment and electrical/instrumental devices, commissioning and operating spares
- Performing the technical services and supervision

Lamerd Gas Condensate Refinery





Owner: Lamerd Palayesh

Company

Location: Lamerd

Contract Type: Managing

Contractor (MC)

Start Date: 2005

Project Duration: 6 Months

Status: Accomplished

Lamerd Gas Condensate Refinery (cont.)



Project Description:

- This Plant is a complex that is organized as a partial shutdown concept to process 120,000 BPD "South Pars" gas condensates that is taken from Assaluyeh facilities. The plant is consisted of process, utility, offsite and infra-structure facilities.
- Finished products from the Refinery are as follows:
- □ LPG
- Unleaded Gasoline
- Aviation Kerosene
- Domestic Kerosene
- Diesel Fuel
- Fuel Oil
- Liquid Sulfur

Lamerd Gas Condensate Refinery (cont.)



According to considering the feed and product specifications and design basis, the following process units are predicted:

- Condensate Distillation Unit (CDU)
- Naphtha Splitter Unit (NSU)
- Naphtha Hydrotreating Unit (NHU)
- Light Naphtha Isomerization Unit (ISOM)
- Medium Naphtha Continuous Catalytic Regeneration Reforming Unit (CCR)
- Kerosene Treatment Unit (KTU)
- Diesel Hydrotreating Unit (DHU)
- Gas Sweetening and Sulfur Recovery Unit
- □ LPG Recovery Unit
- Related Utility and Off-site Units

Lamerd Gas Condensate Refinery (cont.)



Scope of Work:

- Pre-Feasibility Study
- Managing contracting including coordination of access road study, environmental impact assessment, water, environmental, and climate conditions, geotechnical study, earthquake study, geology & surveying
- HSE
- Feasibility Study
- Negotiation with Licensor and Financier
- Basic Engineering Design
- Detail Engineering including: Detail Procurement, Delivery to Site

Review & Revamping of Detail Engineering Documents for R-134a Pilot Plant





Client: Petrochemical Industries Development Management Co. (PIDMCO) Main Contractor: RAMPCO **Location:** Pooyesh Petrochemical Company, Arak **Contract Type:** Engineering Services (E) Start Date: 2005 **Project Duration:** 5 Months **Status:** Accomplished

Review & Revamping of Detail Engineering Documents for R-134a Pilot Plant (cont.)



Project Description:

Main raw materials for R133a and R134a synthesis are hydrogen fluoride, trichloroethylene and chromium – magnesium – fluoride catalyst. Hydrogen fluoride is brought to the unit in containers.

The plant consists of the following process units:

- Catalyst Preparing & Heat-Carrier Production
- TCE Rectification, Distribution & Drying
- R-133a Synthesis
- R-134a Synthesis
- Returnable High-Boiling Products Rectification

Review & Revamping of Detail Engineering Documents for R-134a Pilot Plant (cont.)



- HCL Rectification & Distribution
- Synthetic Gases Catalytic Cleaning-off
- Synthetic Gases Neutralization & Drying
- Synthetic Gases Compression & Condensation
- □ R-134a Cleaning-off
- Condensation & Neutralization of Blow-offs
- High Boiling Products Rectification
- Stand-by & Drainage Tanks
- Freon Mixture Rectification
- □ HF Rectification & Distribution

Review & Revamping of Detail Engineering Documents for R-134a Pilot Plant (cont.)



- Review of the detail engineering documents / drawings
- Create a complete detail engineering package including re-issue of existing documents / drawings and preparation of the new necessary documents / drawings



Iran Central Oil Fields Development





Owner: National Iranian Oil Company (NIOC) Main Contractor: JTG Foreign Colleague: PETROFAC Location: Central Zagros, South East Zagros, and South Zagros, IRAN **Contract Type:** Engineering Services (E) Start Date: 2005 **Project Duration:** 6 Months **Status:** Accomplished

Iran Central Oil Fields Development (cont.)



Project Description:

Central Iran oil fields are consisting three clusters of drilled and non drilled wells including Cluster I: Central Zagros, Cluster II: South East Zagros, and Cluster III: South Zagros. Development of oil fields is planned in three clusters including investigation, drilling, and CPF for basic engineering phase. The output of the project is fed to EPC tender.

The project consists of:

- Central Zagros Cluster Development
- South East Zagros Cluster Development
- South Zagros Cluster Development

Iran Central Oil Fields Development (cont.)

Scope of Work:

- Civil Specifications
- Well Site Building Layouts
- Central Processing Facilities (CPF) Building Layouts
- Booster Stations Building Layouts
- Access Road to Fields
- In Field Access Roads
- Access Roads to Central Processing Facilities (CPF)
- Design of HVAC System for All Buildings
- Material Take Off
- Preparation of Tender Documents for Construction



Kharg Water Treatment Plant





Owner: Iranian Oil Terminal Company (IOTC) Joint Contractor: FPC Location: Kharg Island Contract Type: Engineering, Procurement and Construction Services (EPC) Start Date: 2006 Project Duration: 15 Months Status: Accomplished

Kharg Water Treatment Plant (cont.)



Project Description:

The Iron removal plant has been designed to produce 10,000 cubic meter of potable water per day using Sardasht water which was pumped to Kharg Island through corroded old steel pipeline. The water was polluted with heavy amount of Iron.

The plant consists of the following process units:

- □ Feed pipe line
- Aerators
- Clarifiers
- Sand Filters
- Dual Media Filters
- Activated Carbon Filters

Kharg Water Treatment Plant (cont.)

مرکت طراحی و مهندسی گروه صنعتی عالی نام AaliNaam Engineering & Design Co.

- Back Wash Basin
- Chlorination Package

Scope of Work:

- Complete Basic and Detail Engineering Design
- Procurement and Supply of Equipment
- Civil Construction
- Mechanical Installation and Erection
- Electrical and Instrumental Installation
- Pre-commissioning
- Start up
- Technical Assistance Services

Siri Instrument Revamping Project





Owner: Iranian Offshore Oil Company (IOOC) Main Contractor: Fars Scout Industrial Co. **Engineering Contractor:** ANEDCO Supervisor: ABB Location: Siri Island **Contract Type:** EPC Start Date: 2001 Project Duration: 18 Months Status: Accomplished

Siri Instrument Revamping Project (cont.)



Project Description:

- The incoming crude oil is providing from five offshore oil fields including SIRI A, SIRI B, SIRI D, SIRI E, and NOSRAT. These Facilities are including:
- Oil incoming and treatment facilities with approximate capacity of 100,000 BPD.
- Crude oil storage and loading facilities (3 tanks of 1,000,000 bbl capacity, each).
- \Box Gas treatment facilities with capacity of 11.4 MMft³/day.
- Sea water treatment system with capacity of 84,000 BPD. (Including filtration system, deaeration system, injection system, etc.)
- All related utility systems.

Siri Instrument Revamping Project (cont.)



The final goal of the project was upgrading and changing of the existing obsolete pneumatic and electronic field instruments and control systems using the latest technologies and new DCS and ESD systems.

Scope of Work:

- Review of all process areas
- Simulation of process
- Process basic engineering
- Detail engineering
- HAZOP study
- Hot and cold procedure

Certificates







Certificates (cont.)

| شماره : ۱۵۱۱۶۲۱ تاریخ : ۱۳۹۶/۰۸/۲۲ | (\mathbf{U}) | شمارده ۱۵۱۱۶۲۱ | (Ŭ) | |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| | راست جمودی | تاريخ: ۲۲/۵۰/۹۶۲۲ پيوستد | سازمان برنامه و بودجه کشور | |
| | مانان برناسه و بودم. | ه | گواهينامه صلاحيت خدمات مشاوره | |
| گواهینامه صلاحیت خدمات مشاوره | | | سا گلکاری رم شرکت طراحی و مهندسی گروه صنعتی عالی نام ۱۲۵۱ - ۱۰۵۳-۲۵۱ ۱۰۵۳۰۲۵۱۷ | جناب آقای ره مدیرعامل محت شماره ثبت : ۱ شناسه ملی ۱ |
| | جناب آقای رضا گلکاری مدیرعامل محترم شرکت طراحی و مهندسی گروه صنعتی عالی نام شماره نبت: ۱۲۸۱۱ | شرایط لازم و تایید صلاحیت آن شرکت م خدمات مشاوره به شـــــرح زیر اعلام ما تبداد ۲ کار محان | ه شماره ۲۴۲۷-۲۲۰۵۲ه مورخ ۲۳۸۲/۴۲۳ هیات محترم وزیران و با توجه به امراز ه انځیص صلاحیت عوامل نظام فنی اجرایی، به این وسیله صلاحیت آن شرکت برای انجام 5 شه صد آنا بدیانات بر قد ب کانه ک | با استناد به مصوب در سامانه جامع تا می گردد. |
| نزم وزیران و با توجه به احراز شرایط لازم و ی. به این وسیله صلاحیت آن شرکت برای ۱۰. مادود به پایگاه مانید. کت ضروری است. | با استناد به مصوبه شماره ۲۸۳۲۷:۲۲۲۷ هموز مولا تها مح تایید صلاحیت آن شرکت در سامانه جامع تشخیص صلاحیت عوامل نظام قنی اجرا، انجام خدمات مناوره از تاریخ صدور این گواهینامه تا پایان دوره ارزشیایی و حلاکتر ۵۳۰۲۵ ۱۷۶۶ : ۲۰۵۳ ۵۳۰۳ مای شرکت : ۲۵۷۴۵ ۵۳ ۵۳۰۲۵ مالای : مالای مالامی این این این این این این این این این ای | یا تعداد ۴ کار مجاز با تعداد ۶ کار مجاز به و ظرفیت کاری مجاز در زمان ارجناع حمزه مصطفوی الم ۱۹ منیر و اجوایی ۱۰۰۶ معتبر می پاشد. | تخصصن خطرط انتقل نقت و کارت تخصصن خطرط انتقل نقت و گاز بر برگزاری منقصه به شماره ۲۳۰۸۹ مورخ ۱۷/۷۱/۱۷/۱۷ آیین نامه های اجرایی مربوطه کت هایی مهندمی پترو شیمی فارس» دارای سهامار مشترک است. غلامحسین واهینامه از تاریخ صدور تا پایان دوره ارزشیایی و حداکثر تا تاریخ ۲۰/۸۲/ | ینه ۲ بایه ۱ رعایت مفاد قانون کار توسط آن شر این شرکت با شرا این گر |
| بحدیق کمزه مصطفوی امور نظام فنی و اجرایی | غلاه رييس | د کارفرما باید در سامانه سـاجات ثیت htt. ا طلاعات یا بگاه اصالت دارد. | جات (http://sajat.mporg.ir) نبت شود. جدید حداکثر طرف سه ماه پس از امقاد قرارداد و صورت وضعیت های جدید پس از تأیید تیزار آنها هنگام تشخیص صلاحیت دوره بعد و آزادسازی غارفیت منظور شود. برت مطالب این گواهینامه با اطلاعات موجود در پایگاه tp://sajar.mporg.ir | سامانه سا • هر قرارداد شود، تا ام <mark>در صورت مغا</mark> ا |
| کارکتان امتیازأورا، باید حداکثر ظرف مدت سه ای جدید پس از تأیید کارفرما باید در سامانه نظور شود. | همرکونه تنبیر در ارکان و سهام شرکت و اطلاعات استیازآوران (مدیرعامل، هیأت مدیره و ماه در سامانه ساجات (http://sajat.mporg.ir) ثبت و ارسال شود. هم قرارداد جدید حداکثر ظرف مدت سه ماه پس از انتقاد قرارداد و صورت وضعیته ساجات ثبت شود تا امتیاز آنها هدگام شنخیمی صلاحیت دوره بعد و آزادساری نفرفیت ما | | به مندرجات پشت صفحه گواهینامه توجه فرمایید. | |
| http://xaj، اطلاعات پایگاد اسالت دارد. مایید. د د ۱۳۱۳/۱۰ | در صورت مغایرت مطالب این گواهینامه با اطلاعات موجود در پایگاه ar.mporg.ir به مندرجات پشت صفحه گواهینامه توجه فرر | | | |

Certificates (cont.)





Certificates (cont.)





Contact Us



Main office:

No. 9 & 10, Nasr Building, West Moaddel St., Shiraz, Iran

| Postal Code: | 71346 - 74575 | | |
|--------------|---------------------|--|--|
| P.O. Box: | 71345 - 3475 | | |
| Telefax: | +98 (71) 32345732-5 | | |
| Website: | www.anedco.com | | |
| Email: | info@anedco.com | | |

Project office:

No. 66, West Garmsar St., South Bahaei St., Mollasadra St., Tehran, Iran Postal Code: 1435854984 Telefax: +98 (21) 41343