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Chapter 1

Preface

After 12 years of intensive attempts, we are glad to see that the seed we germinated in August 2007 is now grown to a strong tree and fruits our country’s industries in a prestigious way. Today, Aftab Imen Parto is close to its vision; being the best and greatest Safety & HSE consultancy Company. However, we believe there is still a long path ahead. Commitment to our collective goal was the key of such advancements, so we are able to make a record of carrying out the most number of Risk Assessment, Consequence Modeling and HSE studies in a short period of time. This company is successful to perform various projects in Oil & Gas, Chemical & Petrochemical industries, Steel and pharmaceutical corporations, and participate in some strategic governmental megaprojects.
EXECUTIVE SUMMARY

We are an Iranian leading consulting engineering company in the field of modern safety engineering, and health, safety and environment (HSE) risk management, which is a developing area in our country. The core of the company is a group of professionals with over 19 years of accumulated experience in various engineering, educational and management fields related to safety and HSE. We are focused on improving technical awareness, leadership capabilities and strategic thinking power of companies. Our company provides public and private sector clients in oil, gas and petrochemicals as well as engineering businesses with various consulting services. We also provide professional training courses. Founders of the company are pioneers of modern process safety in Iran, both in industry and in academia. We closely collaborate with Center for Process Design, Safety and Loss Prevention (CPSL) of Chemical and Petroleum Engineering Department at Sharif University of Technology. Managers of the company advocate modern risk management and improvement of safety awareness at management level with various large Iranian companies for several years.

INTRODUCTION

We provide professional services in engineering risk assessment/management. Our specialist team was established by a number of professionals with various safety engineering, education and management background. With a background of various completed projects and several other projects at hand, our team is the leading engineering service provider in the field of HSE in the Iranian market. We help public and private sector companies leverage their assets and investments by systematically identifying various HS&E risks associated with their industry, and managing them cost-effectively. We focus on improving technical awareness, leadership capabilities, and strategic thinking power of companies. Our vision/mission statement summarizes our strategy, which is to construct a pioneer organization that applies up-to-date knowledge, experiences & innovation in the field of Oil, Gas, Petrochemical, chemical, Energy & Nuclear industries, Industrial factories & Servicing Organizations to play an effective role in improving client organization. This improvement can be achieved in terms of:

- Improving safety levels,
- Ensuring production continuity
- Reduction of production costs
- Efficiency Increase
- Minimizing pollution at national and international levels.
Preface

OUR ROLE

We typically undertake the following types of services:

- **A. Hazard Identification and Assessment**
  - Offshore and onshore hazard identification methods such as: HAZOP, HAZID, PHA, FMEA, FTA, ETA, JSA, JHA, Check List, What-if, TA, F&EI
  - Drilling/ SIMOPs Risk Assessment
  - LOPA Analysis
  - Hazard and Effects Management Procedure (HEMP) studies
  - Functional Safety - SIL Calculation and Verification
  - Reliability, Availability and Maintainability (RAM) Study
  - Root Cause Analysis
  - Bow-tie Analyses
  - PSSR Review

- **B. Safety Engineering**
  - Safety Instrumented Systems (SIS) Analysis
  - Designing Safety Systems
  - Designing Fire and Gas (F&G) Detection Systems
  - Designing Emergency Shutdown Systems (ESD)
  - Hazardous Area Classification (HAC)
  - Dropped Object Studies
  - Risk-based Inspection (RBI)
  - Safety Layout Review
  - Detector Mapping
  - Ship Collision Study

- **C. Consequence Modeling and Analysis**
  - Dispersion and Consequence Modeling
  - Qualitative/Quantitative Risk Assessment (QRA)
  - Pipeline Integrity Management (PIM)
  - Designing Explosion Proof Systems
  - Fireproofing Study
  - Fire and Blast Study
  - Computational Fluid Dynamics (CFD)

- **D. HSE**
  - Establishing Management Systems such as: OHSAS18000, ISO14000, IMS and HSE-MS
  - Emergency and Crisis Management Planning (ERP)
  - Environmental Impact Assessment (EIA)
  - Noise Study and Noise Mapping
  - Accident Investigation
  - Posture Analysis
Preface

- Safety Culture Diagnostic and Implementation of Improvement Measures
- Project HSE supervising and advising
- Emergency Evacuation & Rescue (EER) Studies
- Operating and Maintenance Procedures
- Management of Change (MOC)
- Contractor Safety
- Personal Protective Equipment (PPE) Selection
- Industrial Ventilation Studies
- Audits (HSE and PSM)
- Waste Management
- HSE Performance Assessment
- HSE SWOT Study
- Process Safety Management System (PSM) Gap Analysis
- Risk-Based Process Safety (RBPS) Gap Analysis
- SEMS for offshore facilities
- KPI development
- HSE Plan

- E. Training Courses
  - Training Needs Assessment and matrix development
  - In-house and off-house training sessions

We use the latest techniques and comprehensive software tools in our field. However, our advantage lies not in these tools, but in our focused management style, quality of services, supportive clientele and active human resources. Quality of services and project deliverables is a rule for us. The multidimensional view of the team provides clients with a toolkit of expertise in loss prevention and process safety, risk management and strategic planning, assurance and management systems, professional training, and technical development. Being so, our approach simply provides business advantage to the clients, which was extensively recognized and appreciated by our clients (see below).

PROJECTS

Founders of the company have brought in a multi-faceted experience of engineering, consultancy, scientific research, education and training to build a reliable foundation for undertaking client projects. In total, accumulated experience gained in an unrivalled set of projects are more than 350 contracts.
ACADEMIC COLLABORATION

Our roots are in Sharif University of Technology, one of the most renowned technical universities in Iran. We have close collaboration with Center for Process Design, Safety and Loss Prevention (CPSL-http://www.cpsl.ir) at the university. The Center was pioneered in 2000 by Dr. D. Rashtchian, a member of board, and since then is active under his supervision.

The Center has greatly contributed to introduction of modern process safety to the scientific community, as well as to the industry, taking into account its education and research aspects. Moreover, the majority of process safety specialists who have joined us have completed their research in the same Center, including several MSc and PhD research projects leading to ISI papers. The team was established by him and a number of his colleagues to extend the application of the techniques to industrial type projects.

CPSL hosted the National Conference on Safety Engineering & HSE Management started in Feb. 2006, and now in its 8th round to be held March 2020. This conference is always sponsored by several large Iranian and international companies, including NIOC, NGC, NPC, IOOC, BP, DNV, Hydro, Shell, Statoil, TOTAL and TÜV.

OTHER ACTIVITIES

Considering the scarcity of safety engineers who are familiar with the modern aspects of process safety and HSE-MS, our team has attracted and now houses rare contributors to these fields with various complementary experiences. These are categorized in the following areas:

- Safety awareness development and training
- Professional safety services in the engineering companies
- Risk management software
- Exclusive consultant of BIPC (Bandar Imam Petrochemical Company)
- Functional Safety development
- Stablishing HSE broadcasting Media in Social Networks

A. Safety Awareness Development and Training

Our team members have been very active in advocating modern safety and improvement of safety awareness at management level in various large Iranian companies, including NIOC, NIGC and NPC. They have also been engaged in numerous educational, training and research activities in the past 19 years. We have given extensive training in hazard identification, consequence modelling and QRA for several Iranian companies in the recent years. These courses have included professional software presentations, as well.
Preface

B. Professional Safety Services in Engineering Companies
The first ever safety engineering department within a leading Iranian engineering company was established, organized and directed in Nargan Consulting Engineers in 1995 by one of our team members, with the support of top management of the company. He has also served as the senior safety advisor to another large engineering company, which is called Energy Industries Engineering and Design (EIED) Company.

C. Introduction of Risk Management Software
Our team is particularly engaged in introducing professional safety engineering software, including PHA-Pro, PHAST, SAFETI, NEPTUNE and ORBIT in Iran.

D. Exclusive consultant of BIPC (Bandar Imam Petrochemical Company)
In 2014, according to BIPC board decision, AIPCECO was selected as the main safety consultant of HSE department of BIPC for 5 years. Based on this agreement, HSE department of BIPC can award HSE projects to AIPCECO without holding tender.

E. Functional Safety development
Recently, the Functional Safety Studies, as one of the newest approaches of safety engineering of industrial projects, has been developed among the activities of AIPCECO, with holding several training courses for specialists from wellknown companies in collaboration with our Italian exclusive joint, MYND; and a firm foundation is stablishing in AIPCECO for providing services in this field and performing the Functional Safety projects in industrial scales.

F. Stablishing HSE broadcasting Media in Social Networks
Business development team in AIPCECO, has founded a Telegram channel and a proficiency page in LinkedIn, in 2016, in order to sharing the knowledge and broadcasting the safety news.

Telegram:  https://telegram.me/aipceco
LinkedIn:  https://www.linkedin.com/company/aipceco
Instagram:  http://www.instagram.com/aipceco
G. Certificates

In December 2013, AIPCECO managed to achieve the qualification certificate for consultancy services in the field of safety, hazard reduction and passive defense. This certificate is an official approval issued by Vice-Presidency for Strategic Planning and Supervision, the highest governmental section supervising the performance of Iranian contractors, to indicate companies’ level and ranking in any industrial field. AIPCECO succeeded to gain ranking 3 of qualification certificate which can be investigated along with more detail information by visiting http://pmn.mporg.ir

Our Quality Management System (QMS) is certified by SGS for compliance with ISO 9001:2008. We have also been certified by Deputy of The Presidency in Planning and Strategic Supervision as Grade III of Safety Engineering Services.
Preface

G. Professional Memberships

AIPCECO is a registered member of Iran Management Consultants Association (IMCA). It is also authorized by Tehran Province Computer Trade Association for software development. Our efforts towards quality improvement were recognized by NPC as Commitment to Excellence.

Foreign Partners

AIPCECO is collaborating with 15 credible and well-known international companies around the world including Canadian, British, Italian, Norwegian, UAE, Indian, etc. and can offer all activities and services related to engineering and safety projects.
We believe that the active participation, strong managerial will, follow-up the results of meetings and raised solutions, beside interaction with client's experts will result in higher safety level in process/organization and lead to higher efficiency, production continuity, added value increase and cost reduction.

We believe that the quality is the key to survivability and credit for each organization and we strive for it, but also we know that the path toward excellence is an endless journey. Based on our previous experience and on-going trainings for our human resource, we look for more efficiency to fulfil our vision: being the greatest and most prestigious company in safety & HSE consultancy field.
Managers

Vahid Hashemi-Shareholder & Managing Director

Vahid Hashemi

Education:

M.Sc. Chemical Engineering  Sharif University of Technology  2001 (1380)
B.Sc. Chemical Engineering  Iran University of Science and Technology  1999 (1378)

Work Experience:

Rastar Farayand Consulting Engineers Co. (RFCE)  Co-founder and Project Manager  2004-2008
Center for Process design, Safety & Loss prevention (CPSL)  Project Manager  2001+

Summary:

Contract Focal Point, Technical Advisor, Project Manager, HAZOP/HAZID/SIL Leader, Process Safety Expert in more than 350 Projects.

8 Articles in Conferences
More than 60 Professional Trainings for HAZOP, HAZID, SIL, PSM
Managers

Davood Rashtchian-Shareholder & Member of the Board

Davood Rashtchian

Education:

<table>
<thead>
<tr>
<th>Degree</th>
<th>Year</th>
<th>Institution</th>
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<tr>
<td>Ph.D. Chemical Engineering</td>
<td>1988</td>
<td>UMIST (UK)</td>
</tr>
<tr>
<td>M.Sc. Chemical Engineering</td>
<td>1985</td>
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</tr>
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<td>B.Sc. Chemical Engineering</td>
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Work Experience:

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<th>Position</th>
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</thead>
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<tr>
<td>Aftab Imen Parto Consulting Engineers</td>
<td>2008+</td>
<td>Co-founder and Chairman</td>
</tr>
<tr>
<td>Rastar Farayand Consulting Engineers</td>
<td>2003-8</td>
<td>Co-founder and Chairman</td>
</tr>
<tr>
<td>Professor, Chem. &amp; Petr. Eng. Dept.</td>
<td>-</td>
<td>Sharif Univ. of Tech.</td>
</tr>
<tr>
<td>Chem. &amp; Petr. Eng. Dept.</td>
<td>1993-97, 2006-10</td>
<td>Sharif Univ. of Tech., Chairman</td>
</tr>
<tr>
<td>Chem. &amp; Petr. Eng. Dept.</td>
<td>1988-present</td>
<td>Sharif Univ. of Tech., Faculty Member</td>
</tr>
</tbody>
</table>

Projects:

Project Manager/Supervisor in more than 60 Projects.

Additional Qualifications:

Organized Center for Proc. Design, Safety and Loss Prevention at Sharif Univ. of Tech.
Organized the National Safety Engg & HSE Mgmt. Sys. Conferences, Tehran
Given 20+ safety awareness and management speeches for major Iranian oil, gas and petrochemical companies
Member of Establishing Mission and Board of Directors, Iran Association of Chemical Engineers, 1992-present
Member of Establishing Mission, Iran Safety Sciences Association
Chairman & Co-founder, Iranian Association of Chemical Engineers (IAChE)
Member, Iran Safety Sciences Association (ISSA)
Chapter 3

Details of AIPCECO projects

Based on a 19 year experiences of our personnel (carrying out more than 350 engineering projects in more than 450 process plants and utilities) in Hazard Identification and analysis, safety engineering, risk assessment, consequence modelling and HSE management in Oil & Gas, Steel, construction, chemical and petrochemical industries, we are ready to offer technical and engineering services in mentioned areas. You can find the details of such projects in the incoming chapter.
Details of Projects

307 TH Project

Nitrogen Package of Palayesh Parsian Sepehr

CLIENT
Havayar Company

DESCRIPTION
In this project a comprehensive HAZOP report has been prepared for Nitrogen production package of Palayesh Parsian Sepehr Refinery. This package produces liquid nitrogen through a cryogenic process which includes equipment like Filter, Cyclone, Heat exchangers, Rectification Column and Nitrogen storage Tank.

CONTENTS
- HAZOP Report

STATUS
Commenced

CONTACTS:
Project Manager: Mr. F. abiri

CLIENT CONTACTS:
Person-in-charge: Mr. Taheran
Tel: 02188202424

306 TH Project

Aban Oil Field Development and Paydar West Project

CLIENT
Tehran Raymand Company

DESCRIPTION
Aban and West Paydar oilfields are located in the western part of Iran, on the Iran-Iraq border, which Aban contains sweet oil in asmari layer and West Paydar contains sweet oil in asmari layer and sour oil (24500 ppm H2S) in Sarvak layer. Development and production 10 years operations service contract (IPC) for Aban and West Paydar oilfields between National Iranian Oil Company (NIOC), ZN Vostok Ltd and Dana Energy has been signed on March 14, 2018. The project objective is to prepare FEED Package, Detailed Design of earthworks and foundations, Field Supervision of earthworks and foundations and Supervision of Detailed Design documentation of relevant subcontractors. With considering production profile of West Paydar and Aban fields reported in pre-feed documents, high produced water contents in each field well stream are presented. So one of key requirements of project is limiting produced water content at delivery point (Cheshmeh Khush CPF) down to 5% water cut. This critical item leads project to have pre-separation at fields to decrease water content of oil up to maximum limit. To separate excess produced water, it is intended to construct Aban and WP FWKOP.

CONTENTS
- Hazard and Operability Study (HAZOP)
- Reliability and Maintainability Study (RAM)
- Safety Integrity Level (SIL)
- Hazard Identification (HAZID)
- Environmental Impact Identification (ENVID)
- Quantitative Risk Assessment (QRA)

STATUS
Commenced June 2019

CONTACTS:
Project Manager: Mr. Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Sarkari
Tel: 02188713941
### 305 TH Project

**For 32" Sour Gas Pipeline from IGAT 5 to the Unit 170 of Phase 14 of South Pars**

**CLIENT**  
Neyr perse Company

**DESCRIPTION**  
In this project the 32" line from IGAT 5 to unit-170 is designed for the early production of phase 14 before Slug Catchers are brought in service.

**CONTENTS**  
- Hazard and Operability Study (HAZOP)

**STATUS**  
Commenced April 2019

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Mashhadimoslem  
Tel: 02123534128

### 304 TH Project

**Ethane, Propane, Butane & C5+ export lines between client plant and Mobin Corridor and relevant Valve Station**

**CLIENT**  
Palayesh Parsian Sepehr Company

**DESCRIPTION**  
Including parts in analysis was piping and motorized operated valves. During sessions and analysis several process and none-process hazards related to effects of export piping to nearby facilities, roads and camp was reviewed and proper solutions or further studies was proposed.

**CONTENTS**  
- HAZOP Study  
- Consequence Analysis Study  
- HAZID Study

**STATUS**  
Commenced in April 2019

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Zaman Zade  
Tel: 02122269217
303 TH Project  The product warehouse and packing Section of Laleh Petrochemical Complex

CLIENT
Laleh Petrochemical Company

DESCRIPTION
The purpose of this project is design and update of existing fire alarm system to reduce false alarms and protect of unprotected area such as packing machine at the Laleh petrochemical product warehouse. Another purpose is use of existing equipment and cables for cost optimizing.

Since the project is located in southern of Iran, site conditions such as presence of moisture and dust shall be considered in studies. The warehouse is contained of raw LD polyethylene in granule shape, pullets, and pockets, area is approximately 21000 m2 and design must be such that the minimum number of detectors is used.

This study is included following:
- Review of existing design and equipment for use in new design
- Design and update the fire alarm system in accordance with the latest edition of the standards

CONTENTS
- Design of Fire alarm system

STATUS

CONTACTS:
Project Manager: Mr. R.Habibi
Person-in-charge: Mr. Sameri Tel: 06152122819

302 TH Project  1,3-Butadien/ Acrylonitrile Transfer Pipelines between JPC/Pars Port to PadJam Petrochemical Plant

CLIENT
Petroelectric Energy Development Company

DESCRIPTION
The project consists of the Acrylonitrile, 1,3 Butadiene transfer pipelines and pig launcher equipment. The relate of pipelines are 1800, 1300 meters, respectively

CONTENTS
- Hazard and Operability Study (HAZOP)

STATUS
Commenced February 2019

CONTACTS:
Project Manager: Mr. V.Hashemi
Person-in-charge: Mr. Adibi Tel: 02188364512
301 TH Project
Steam Methane Reformer Unit of Ardebil Methanol Plant

CLIENT
Arta Energy Company

DESCRIPTION
Ardebil Methanol Plant will be located in Arta industrial zone, Namin, Ardebil province. Steam Reformer Unit of this plant is under detailed design phase. Synthesis gas production capacity of this unit is 350 MTPD. Natural gas feed and fuel of Steam Reformer unit is provided by Iranian Gas Trunkline (IGAT-1) which is located 16 kilometer far from the plant. Electrical power is provided by the power national grid while water is supplied through local well sources. Methane Steam Reformer unit consists of the following sections:

CONTENTS
- Hazard and Operability Study (HAZOP)

STATUS
Commenced March 2019

CONTACTS:
Project Manager: Mr. R.Joharinad

CLIENT CONTACTS:
Person-in-charge: Mr. Moattari Tel: 0218588

300 TH Project
Cargo Storage Tanks and Transferring Facilities of Exir Chemical Terminal

CLIENT
Exir Chemical Terminal Company

DESCRIPTION
Exir Chemical Terminal is located in site No.5 of the Special Petrochemical Economic Zone (PETZONE) of Bandar Imam Khomeini, Iran. The total area of the terminal is 4.2 hectares. The terminal is about 1.8 km away from the existing jetties. The terminal consists of 18 product tanks which they are ranging in size from 1000 m³ to 2000 m³, with a total capacity of 22000 m³. The terminal is able to receive (by pipelines/ ships/ road tanker), store, handle and dispatch (by ships/ road tankers/ drums/pipelines) hydrocarbon liquids such as petroleum products, industrial chemicals, petrochemicals, and vegetable oils, etc. The receipt/ dispatch lines are provided from the jetty or Ship-in facilities (Petrochemical Tanks & Terminals Co.). There are 10 nos. piggable jetty lines with central hose manifold facility. The storage tanks are located in two tank farms. There are product pumps dedicated for each tank feeding to Truck loading facility (with flow meter & Batch controller) and Drumming unit (2 lines).

CONTENTS
- Hazard and Operability Study (HAZOP)

STATUS
Commenced February 2019

CONTACTS:
Project Manager: Mr. R.Joharinad

CLIENT CONTACTS:
Person-in-charge: Mr. Liravi Tel: 06152175453
### 299 TH Project

**Compressed Air and Nitrogen Generation Packages of Persian Gulf Bid Boland II Gas Treating Company**

**CLIENT**

Havayar Industrial Group

**DESCRIPTION**

The project has been defined for production of compressed air and nitrogen supply of Persian Gulf Bid Boland Gas Treating plant. Compressed air is provided by two 4 stages compressors (each capacity is 7900 Sm3/hr) at 11 barg pressure. The production of packages includes 4000 Sm3/hr nitrogen with purity of 99.5 % at 8.7 barg pressure, and 430 Sm3/hr Instrument air at 10.5 barg. The facilities of packages include R134A Chiller, Screw Compressor, Dryer packing, Nitrogen Compressor, Hydrogen PSA and dew point adjustment cooler.

**CONTENTS**

- Hazard and Operability Study (HAZOP)

**STATUS**

Commenced February 2019

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Kadkhodaei  
  Tel: 02188202424

### 298 TH Project

**For SIGMA 1-14 Centrifuge**

**CLIENT**

Armin Shegarf Company

**DESCRIPTION**

This project includes the Centrifuge Device hazard Identification Studies (SIGMA 1-14) of Armin Shegarf company. Addition to hazard identification by failure modes and effects analysis (FMEA) method, other outputs such as checking of Technical Specifications and components of SIGMA 1-14 Centrifugal. FMEA Procedure is documented.

**CONTENTS**

- FMEA Worksheets
- Technical Specifications of SIGMA 1-14 Centrifugal
- Components of the SIGMA 1-14 Centrifugal
- FMEA Procedure

**STATUS**

Commenced

**CONTACTS:**

- Project Manager: Ms. S. Khosroshahi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Jafari  
  Tel: 02188500481
Details of Projects

297th Project CPF Section of Azar Oil Production Unit

CLIENT
Jahanpars Company

DESCRIPTION
One of the major defined activities in the field of safety instrumentation of CPF of AZAR Oil Field Development Project is the SIL Verification which has been awarded to AIPCECO. This verification study has been performed for 88 safety instrumented loops by AIPCECO specialists through three methods based on IEC-61508 as follows:

- Systematic Capability (SC) of each device used in a SIF.
- Minimum architecture constraints for each element in a SIF.
- PFDavg for the entire SIF.

Eventually, the lowest SIL level calculated from above mentioned methods was considered as the available SIL level of the system which was compared with required SIL then corrective strategies were developed to achieve the Target SIL level for improving the reliability of these systems.

CONTENTS
- SIL Verification

STATUS
Under Study

CONTACTS:
Project Manager: Mr. V. Hashemi
Technical Manager: Mrs. Mahshid Alizadeh

CLIENT CONTACTS:
Person-in-charge: Mr. Ghanaee Nezhad  Tel: 27624000

296th Project Mahabad Petrochemical Company

CLIENT
Mahabad Petrochemical Company

DESCRIPTION
The present project is defined for analyzing hazards of 110 job titles of Mahabad Petrochemical company. In addition to hazard identification and risk assessment by JHA method, other outputs such as PPE, Training, and Periodic medical examination and HSE instructions for each job are reported. The project will be done by PHA-Pro software. Preparing 10 instructions is also other outputs of this project.

CONTENTS
- JHA Study
- JHA worksheets

STATUS
Commenced

CONTACTS:
Project Manager: Mr. M. Haghbin

CLIENT CONTACTS:
Person-in-charge: Mr. Ostovar  Tel: 04442516515
295 TH Project
Morvarid Petrochemical Company

CLIENT
Morvarid Petrochemical Company

DESCRIPTION
Prioritize and select jobs
Job analysis based on the OSHA-3071 standard and the creation of a job(work) identity card (120 job titles will be analyzed in this project)
Identify and assess risks to jobs and report safety hazards, and environmental health and risk assessment include:
Risks arising from the nature of the job, the risks and using machines
Risks of unsafe workplace conditions
Risks of explosive materials, flammable and toxic
Risks of adverse environmental factors, including air pollution, heat, humidity, fine dust and

CONTENTS
- JSA Study

STATUS
Commenced 2019

CONTACTS:
Project Manager: Ms. S.Khosroshahi

CLIENT CONTACTS:
Person-in-charge: Mr. Gandianloo
Tel: 07737293035

294 TH Project
Fuel Gas Letdown Station (GPRS) of Besat Power Plant
(Central Power Plant of South Pars Gas Field Development)

CLIENT
Monenco Iran Consulting Engineers

DESCRIPTION
Basic design of new Besat GPRS (Gas Pressure Regulation Station) beside existing station is done by Monenco. The purpose of this station is increasing reliability of supplying fuel gas to Besat GTs from IGAT4 and Phase 9&10. This power generation unit supplies power to some of gas refineries in South Pars. The operational capacity of each new and existing station is 300,000 normal cubic meters per hour. These stations have been designed to reduce pressure from 90 bara to 24.1 bara, 300,000 Nm3/h and the outgoing temperature of 25 degrees Celsius. This station consists of filtration, metering, heater and pressure reducing sections. The existing station has 2 runs in the service and 1 run in standby and the new station operates with a single run.

CONTENTS
- HAZOP Study
- HAZID Study

STATUS
Commenced January 2019

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Moghadamali
Tel: 021-81969033
### 293 TH Project

**MPU of Shazand Petrochemical Company**

**CLIENT**  
Sina Control Company

**DESCRIPTION**  
Methane Purification (MPU) is designed to purify methane gas from the EO / EG unit of Shazand Petrochemical Complex in Arak. In this package, natural gas contains 83% of methane with a flow of 354 kg / hr and a pressure of 27 bar. After removal of heavy and sulfur compounds with 95% purity free of undesirable combinations of (CO2 < 10 PPMV and Co) and (total S < 0.1 PPMV) to low unit Hands handed. This project consists of hydrogenation and desulphurization, pre-reformer, Charge Heater, Methanation and utility facilities including cooling water system and Steam Network.

**CONTENTS**  
- HAZOP Study

**STATUS**  
Commenced

**CONTACTS:**  
Project Manager: Mr. R. Johari Nad

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Sh. Zare  
Tel: 07132321055

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### 292 TH Project

**Seawater Intake Unit and Chlorination Package for Phase14 of South Pars Gas Development**

**CLIENT**  
Sahel Omid Iranian Consultant Engineers Company

**DESCRIPTION**  
Seawater intake system has been designed by Sahel Omid Iranian for providing cooling water for cooling system of Phase14 of South Pars Company. Required water for cooling system is suppling from Persian Gulf. The seawater is transferring from sea to basin via marine pipelines by gravity. Seawater in basin after pumping and filtrating is send to cooling system and other purposes in plant. Design capacity of basin is 10000 m3/hr and consists of totally 6 pumps in pumping basin including 4 (3+1) electrical pump and 2 diesel pump with rated capacity of 2600 m3/hr, 2 Bar Screen Filters, 2 Band Screen Filters and 4 Self-cleaning Filters.

**CONTENTS**  
- HAZOP Study  
- HAZID Study

**STATUS**  
Commenced September 2019

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Hamid  
Tel: 02181444310

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291^TH Project  H₂ PSA Purification for Tabriz Oil Refinery

**CLIENT**
Havayar Industrial Group

**DESCRIPTION**
A PSA unit has been provided for H₂ Purification of Steam Reformer outlet gas of Tabriz Oil Refinery. Steam Reformer outlet gas flow rate and composition are 61300 Nm³/hr with 77% H₂. H₂ production of the PSA flow rate and composition are 41745 Nm³/hr (3915 kg/hr) with >99.5% H₂ which feeds plant hydrogen consumers. Off-gas residue of the PSA flow rate and composition are 24872 Nm³/hr with 28.97% H₂ which is used as Steam Reformer fuel. This PSA unit consists of 8 Adsorbers while each Adsorber consists of 4 beds with different packing. This PSA efficiency is approximately 87%.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced December 2018

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Habibi  Tel: 02188202424

290^TH Project  Installation of New Carbon Steel Filter on inlet of Sweet Gas To Recovery Ethane Unit

**CLIENT**
Bushehr Petrochemical Complex

**DESCRIPTION**
The inlet line of Ethan recovery site, which has been currently considered a stainless steel line, enters Ethane feed to cold-box. To prevent the entry of particles and contamination of the line, it has been decided to install two filters on this line. In this project, the possibility of installing a carbon steel filter and possible associated risks was investigated and the relevant results were recorded.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced: December 2018

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Ghanavati  Tel: 07727324411
### Details of Projects

#### 289 Th Project

**MEG Plant Flare Package of Bushehr Petrochemical Company**

**CLIENT**
Tehran Javan Company

**DESCRIPTION**
The purpose of constructing this Flare Package is to Burning of MEG Plant flaring gas such as Methane, Ethan and Ethylene in emergency case.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced: December 2018

**CONTACTS**
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**
- Person-in-charge: Mr. Mortazavi
  - Tel: 02188878301

#### 288 Th Project

**Bandar Abbas Sulphuric Acid Transport of Copper Terminal Project (EPC&O) Related to Sarcheshmeh Copper Investment Company**

**CLIENT**
Sceiran Consulting Engineers

**DESCRIPTION**
Sarcheshmeh Copper Investment Company-SCICO on behalf of National Iranian Copper Industries Company-NICICO (the “Client”) intends to build a Sulphuric Acid Terminal and Transport Pipeline to the jetty in Bandar Abbas (Bandar Abbas Sulfuric Acid Transport Terminal) to store and export Sulphuric Acid product. The unloading section is included two rails, each of which holds 20 tank cars, the store section is included 8 storage tanks (H2SO4 93%~98%) and transferring pump and the export section is included 3 loading arm.

**CONTENTS**
- HAZOP Study
- HAZID Study

**STATUS**
Commenced: December 2018

**CONTACTS**
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**
- Person-in-charge: Mr. Zolfaghari
  - Tel: 021-88050154
287\textsuperscript{TH} Project

**Details of Projects**

**CLIENT**
Setiran Consulting Engineers

**DESCRIPTION**
Studies were performed for Khormooj & Abpakhsh gas compressor stations (GCS) on IGAT-VI pipeline. Gas transmission capacity is 107 mmscmd and inlet & outlet pressure to stations are 930 psig and 1305 psig respectively. Hazard identification is included process area such as turbo-compressor, knock out drum, gas cooler, gas reducing station and technical buildings such as control room, emergency generator room, switchgear room, battery room and public areas.

**CONTENTS**
- HAZOP Study
- QRA Study
- HAZID Study

**STATUS**
Commenced

**CONTACTS:**

- **Project Manager:** Mr. R. Johari Nad

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Zolfaghari
- Tel: 02188050150

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286\textsuperscript{TH} Project

**Details of Projects**

**CLIENT**
Sarcheshmeh Copper Complex

**DESCRIPTION**
This project is the first AIPCECO project in the Iran Copper Industry. In this project, AIPCECO used the DOW, Total 021 and Consequence Modeling methods to determine safety distance between the new acid storage tank and adjacent equipment. If the equipment hadn’t adhered to the appropriate distance, the recommendations to reduce accident risk would have been presented.

**CONTENTS**
- Consequence Modeling (CM)
- DOW Study

**STATUS**
Commenced on 2018 12 22

**CONTACTS:**

- **Project Manager:** Mr. J. Ghasemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Zeidabadinejad
- Tel: 03434302701
## 285 TH Project
**Central Waste Water Unit of Bandar Imam Petrochemical**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Mojan Engineering Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>Central wastewater treatment plant of Bandar Imam petrochemical complex is planned to receive industrial and sanitary wastewater with an average capacity of 30,000 m³/d. This project is included Waste Water and UF &amp; RO units. The treated water is delivered with appropriate specification such as TDS, TSS, BOD, COD, etc.</td>
</tr>
<tr>
<td>CONTENTS</td>
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<tr>
<td>STATUS</td>
<td>Commenced: October 2018</td>
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<tr>
<td>CONTACTS:</td>
<td></td>
</tr>
<tr>
<td>Project Manager:</td>
<td>Mr. V. Hashemi</td>
</tr>
<tr>
<td>CLIENT CONTACTS:</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge:</td>
<td>Ms. Hosseini</td>
</tr>
</tbody>
</table>

## 284 TH Project
**Ethane and Ethylene Storage Tanks and Pyrolysis Gasoline Loading/Raffinate Unloading Facilities for Amir Kabir Petrochemical Complex**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Amir Kabir Petrochemical Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>This Project consists of Ethane and Ethylene storage tanks, Vaporizer section, Boil off compressor section, Bold box section and Pyrolysis Gasoline loading and Raffinate unloading. Design has been performed by EIED.</td>
</tr>
<tr>
<td>CONTENTS</td>
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<tr>
<td>STATUS</td>
<td>Commenced: November 2018</td>
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<tr>
<td>Project Manager:</td>
<td>Mr. V. Hashemi</td>
</tr>
<tr>
<td>CLIENT CONTACTS:</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge:</td>
<td>Mr. Rashidi</td>
</tr>
</tbody>
</table>
Details of Projects

283 TH Project  CO2 Compressor Package of Bushehr MEG Plant

CLIENT
PERSIA PETRO GAS (PPG)

DESCRIPTION
In this study level of achievement of the desired SIL level based on architectural constraint, target failure measure and systematic capability of purchases devices was studied.

CONTENTS
- SIL Verification

STATUS
Commenced: Agu 2018

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Shokry
Tel: 02128162816

282 TH Project  Fire Water Demand Calculation of Marun Pouya Polymer Company (MPPC)

CLIENT
Marun Pouya Polymer Compounds Company

DESCRIPTION
The purpose of this project is calculation of maximum fire water demand that is required according to worst case fire scenario at the plant. In this project there are various materials (such as Fiber, LDPE, HDPE, Resin, etc.) with different fire classes that each needs to extinguishing water specified volume. The largest fire risk in the plant is in the warehouse area and main consumers of fire water are the water sprinkler systems. The design basis for fire water calculation is extinguishing of one major fire.
This study shall be considered in hydraulic calculation studies and fire water network lines sizing.

CONTENTS

STATUS
Commenced

CONTACTS:
Project Manager: Mr. R.Habibi

CLIENT CONTACTS:
Person-in-charge: Mr. Khazaei
Tel: 06152114300
Details of Projects

281TH Project

Six Renew existing Gavarzin Gas Field Flowlines replacement, GZ09 Wellhead, Reception and Separation Facilities EPC Project

CLIENT

Saied Sanat Maroon Company

DESCRIPTION

The Gavarzin Gas Field Facilities are located in South West of Qeshm Island in Persian Gulf, Iran. Existing Flowlines of Sweet Gas with 68 bar directed to Gavarzin Gas Dehydration Unit. This Project consist of:

- GZ-09 Wellhead Facilities
- Flowlines from GZ01, GZ03, GZ04, GZ06, GZ07, GZ08 and GZ09 Wellheads and Pig Launching Facilities at each Wellhead Area.
- Inlet Manifold
- Burn Pit
- New Reception and Separation Facilities at Existing Gavarzin Gas Dehydration Unit.
- 16" Gas Transmission Pipeline from Hengam Gas Refinery to Existing Gavarzin Gas Dehydration Unit
- Chemical injection Package for GZ09 Wellhead Facility

CONTENTS

- HAZOP Study
- HAZID Study

STATUS

Commenced March 2019

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Maleki Tel: 02188555301

280TH Project

Azar Oil Product Pipeline

CLIENT

Iran Arvin Engineering & Construction Co. (IAC)

DESCRIPTION

Reservoir fluid from each well of the AZAR oil field will be routed to the inlet manifold of the CPF via a separate flow line. In the early production stage, crude oil is separated from oil associated sour gas within the CPF and transferred to Dehloran facilities. In the final production stage, on arrival into the CPF the crude oil, oil associated sour gases and water will be separated and processed to meet the product specifications. The treated crude and associated sour gases will be exported via separate buried pipelines respectively to the Cheshmeh Khosh and Dehloran facilities. Quantitative risk assessment has been carried out for these pipelines, and societal risk results indicated that any populated area has not been located in high risk region.

CONTENTS

- QRA Study

STATUS

Commenced 2018

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gholamrezayi Tel: 02188851997
Details of Projects

279 TH Project  Lavan Integrated Methanol and Ammonia Plan

CLIENT  Lavan Industry Development Company

DESCRIPTION  This project will produce 3000 MTPD methanol and 900 MTPD ammonia simultaneously. This project consist of hydrogenation and desulphurization, pre-reformer, primary reformer, secondary reformer, flue gas heat recovery section, CO2 PSA, methanol synthesis, ammonia synthesis, methanol distillation, methanol storage tanks, HRU and utility facilities including flare system and cooling water system. This plant has been designed by Nargan under license of Haldor Topsoe.

CONTENTS  
- HAZard and OPerability (HAZOP)

STATUS  Completed

CONTACTS:  
Project Manager:  Mr. R. Johari Nad

CLIENT CONTACTS:  
Person-in-charge:  Mr. H. Farhadi  Tel: 021-88383832

278 TH Project  Bitumen Units of Bandar Abbas and Esfahan Oil Refinery

CLIENT  Jey Oil Refining Company

DESCRIPTION  According to missing hazard identification in design phase and change in process and piping in Bandar Abbas and Esfahan units of Jey Refining Oil Company (JORC), it was JORC request to do a HAZOP Study for these units. Bandar Abbas unit is mainly for Bitumen and Extract (heavy product of motor oil plants) facility and is consist of Bitumen & Extract storage tanks, screw pumps for ship & truck loading, Bitumen & Extract caldron and unloading Pumps, Hot Oil Network, Coils and Heater Package. Moreover Esfahan unit purpose is production of Bitumen from Vacuum bottom of crude distillation tower and storage. Currently there are two production units inside Esfahan plant and licensors are Fluor and Porner. These units consist of equipment such as Bitumen blowing reactor, screw pumps, deoiling vessel, incinerator, air compressor, Bitumen storage tanks

CONTENTS  
- HAZOP Study

STATUS  Commenced

CONTACTS:  
Project Manager:  Mr. F. Abiri

CLIENT CONTACTS:  
Person-in-charge:  Mr. S. Abbasi  Tel: 02183394000
Details of Projects

277 TH Project
Feed Gas Metering Package of Sodium Carbonate Kaveh Plant

CLIENT
Kaveh Sodium Carbonate Company

DESCRIPTION
Required Fuel gas (C1:87%, N2:7%, H2S: 0.02%, C2+:6%) for Sodium Carbonate Kaveh Co. (Firoz Abad-Fars province) feed by branched pipe 12” from Aghar Sour Gas Trank line 24”. Branched pipe 12” reduced to 8” then enter to Metering Package for custody transfer. Metering Package include 2 run (4”) that one run for duty meter and one run for Master meter that only used for proving. Metering Package normal operation condition is as below:
Rate: 45000 Nm3/h, Pressur: 120~150 barg, Temperature: 30~50 °C.

CONTENTS
- HAZOP Study

STATUS
Commenced: September 2018

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Mohammad
Tel: 02129100

276 TH Project
Structure of Aria Sasol Polymer Company

CLIENT
Arya Sasol Polymer Company

DESCRIPTION
AIPCECO was invited by ARYA SASOL Polymer Company to conduct a Fireproofing Study for Olefin, LDPE and HDPE plants. The first and most effective passive fire protection system is fireproof coating that increase resistance facilities, equipment and structure against the fire. The installation of fireproofing requires engineering studies. These studies include flowing:
- Determining fireproofing required location
- Determining the type of coating according to environmental and process condition
- Determining requirement thickness

CONTENTS
- Fireproofing Study

STATUS
Commenced: On 23 August 2018

CONTACTS:
Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Abassabadi
Tel: 02185920000
### 275TH Project

**Client**
Persian Gulf Bid Boland Gas Treating Plant

**Description**
Ethane from Persian Gulf Bid Boland Gas Treating Plant (PGBGT) shall be transmitted to Gachsaran Petrochemical plant (PGPIC). The pipeline shall be designed to be capable for transferring 156(t/hr) Ethane in the gas phase.

**Contents**
- HAZOP Study
- SIL Study

**Status**
Commenced

**Contacts**
Project Manager: Mr. V. Hashemi

**Client Contacts**
Person-in-charge: Mr. Valadkhani Tel: 06152132041

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### 274TH Project

**Client**
Sisakht Consulting Engineers Company

**Description**
PALAYESH PARSIAN SEPEHR Company (PPSC) intends to transfer C2+ from Mohr site which is located in the north of MOHR city of FARS province to PARSIAN C2+ Refinery in ASSALUYE city of BUSHEHR province by executing EPC Project of C2+, 18 Inch UG Pipe line at the south of IRAN. In order to identify and decrease risk level, HAZOP and HAZID studies was performed in 2 sessions. Main facilities in the project which was reviewed are Pig launcher and receiver, pipeline, technical buildings and valve stations. Some of risks related to this pipeline are the possibility of two phase formation inside pipeline due to fluid composition and since pipeline pass through mountains, hazards related to the elevation and rout was a real challenge.

**Contents**
- HAZOP Study
- HAZID Study

**Status**
Finished

**Contacts**
Project Manager: Mr. V. Hashemi

**Client Contacts**
Person-in-charge: Mr. M. Amini Tel: 02188055861
## 273° Project
### Maintaining and Developing of HSE Management System Based on HSE Management System Requirements of Tehran municipality

**CLIENT**
Abbas Abad Land Rehabilitation organization

**DESCRIPTION**
Regarding to importance of HSE management system for client to organize & improve health, safety & environments subjects in its activities & programs and consequently reduce losses, occupational accidents & environmental impacts, continuous maintaining & development of HSE is be conducted.

All activities & programs related to maintain HSE management system in this organization (client) is compliance with HSE management system requirements of Tehran municipality. To achieve to considered results, following items will be perform

- General activities related to maintaining management systems.
  - Planning and reviewing of documents.
  - Hazard identification, risk assessment and management of risk
  - Establish & perform HSE management system requirements

**CONTENTS**
- Documentation
- Risk assessment
- SOP
- JHA
- Determine objectives and target and policy

**STATUS**
Commenced

**CONTACTS**:
- Project Manager: Mr. S. Khosroshahi
- Client Contacts: Mr. Khaligh Fard
  - Tel: 02188795835

## 272° Project
### Sulfur Export Jetty of Mahshahr Terminal

**CLIENT**
Hendeseh Pars Company

**DESCRIPTION**
This project is consist of hazard potential of sulphur storage buildings, jetty area, relevant control.

**CONTENTS**
- HAZID Study

**STATUS**
Commenced July 2018

**CONTACTS**:
- Project Manager: Ms. P. Saeedi
- Client Contacts: Mr. Sadeghi
  - Tel: 0218837455
CLIENT
Payesh Zist Azma (EMACO)

DESCRIPTION
This unit planned for Treatment of VOC Gases of plant effluents basins. The cover system is composed of 8 fixed covers made of GRP for accumulate vaporized VOCs (Volatile Organic Components) from basins. Accumulated VOC routed by duct to Scrubber for removal corrosive acid elements. Then VOCs transfer to (furnace) RTO (Regenerative Thermal Oxidizer) for oxidizing and then flue gas release to atmosphere through stack. This plant included equipment such as: Covers, Scrubber and RTO, Blower, etc.

CONTENTS
- HAZOP Study
- Safety Study

STATUS
Commenced: June 2018

CONTACTS:
Project Manager: Mr. R. Habibi

CLIENT CONTACTS:
Person-in-charge: Mr. Nafissi
Tel: 021-44267401

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271TH Project
Effluent Treatment Plant-VOC Gases Treatment of Marun Petrochemical

CLIENT
Pardis Petrochemical Complex

DESCRIPTION
AIPCECO invited by Pardis Petrochemical Complex to carry out Quantitative Risk Assessment. This project include hazard identification, defining credible scenario, fire zone spacing, restricted area, scape rout and muster point, blast study for critical buildings, fireproofing study, F&G Mapping and Quantitative Risk Assessment. In this project, in addition to above reports, fire zones layout, fence location of the complex, muster point and escape route layout, fireproofing layout and detector layout were presented to client.

CONTENTS
- QRA Study

STATUS
Completed May 2017

CONTACTS:
Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Shabanzadeh
Tel: 07737323305
**269 TH Project**  
**Part B of Mahshahr Facilities and Pipelines of Persian Gulf Bid Boland Gas Treating Project**

**CLIENT**  
Tehran Jonoob Technical & Construction Co

**DESCRIPTION**  
Sweet and sour gas gathered from NGL-900, 1000, 1200 & 1300 and routed to Bid Boland II (BBII) as feed. In first part of the project SIL study was performed for Tie-In parts of the Pipelines in supplying facilities and receiving section near BBII. In the second part of the project a SIL study was done for storage facilities of BBII products including Propane, Butane and C5+ in Mahshahr industrial area. SIL was performed through Risk Graph method and it was included equipment such as Chiller Compressor and Heat Exchanger, VRU Compressor, Full Containment Storage Tank, and Evaporator.

**CONTENTS**
- HAZOP Study
- SIL Study

**STATUS**
Commenced

**CONTACTS:**
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
- Person-in-charge: Mr. Dehghani  
  Tel: 02188065494

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**268 TH Project**  
**Building of feed pump boiler in Road Shoor Power Plant by Using QRA method**

**CLIENT**  
Mapna Company

**DESCRIPTION**  
AIPCECO invited by Road Shoor power plant to carry out Quantitative Risk Assessment by using QRA method. In this project, pipelines were investigated, and then individual and societal risk were determined. These risks were compared with risk criteria, and finally, conditions of the pipelines was specified in the current situation. Also, recommendations were presented to reduce High risk area to acceptable level.

**CONTENTS**
- QRA Study

**STATUS**
Commenced May 2018

**CONTACTS:**
- Project Manager: Mr. J. Ghasemi

**CLIENT CONTACTS:**
- Person-in-charge: Ms. Kianinejad  
  Tel: 25549284

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Details of Projects

267th Project  Mahshahr Terminal Sulphur Export Jetty

CLIENT
Omran Sahel Company

DESCRIPTION
This project consists of a hazard review of sulphur storage buildings, jetty area, relevant control building and Tombak port service buildings.

CONTENTS
- HAZID Study

STATUS
Commenced July 2018

CONTACTS:
Project Manager: Mr. P. Saeedi

CLIENT CONTACTS:
Person-in-charge: Mr. Khoshkhoo

266th Project  Persian Gulf Bid Boland gas treating project Unit 460 - 120 T/H New Package Boiler

CLIENT
Tarahan va mojran Farayand Bokhar

DESCRIPTION
Bid Boland Company decided to procure one boiler from Farayand Bokhar with capacity of 120T/H to supply required steam for the project. The equipment in this project are boiler, Forced Drift Fan, Phosphate injection package, online analyzer, Continuous and Intermittent Blow Down (CBD & IBD) tanks.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Commenced

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Ms. Ensieh Shokri
Tel: 02188690607
### 265^th^ Project

**B1;BD and LDPE units in Amir Kabir Petrochemical Company**

**CLIENT**
Amir Kabir Petrochemical Complex

**DESCRIPTION**
AIPCECO invited by Amir Kabir Petrochemical Complex to carry out Consequence Modeling for BD, B1, and LDPE units. This project include hazard identification, defining credible scenarios, and fire zone spacing, and specifying restricted and impacted area based on the mentioned units.

**CONTENTS**
- Consequence Modeling (CM)

**STATUS**
Commenced: November 2018

**CONTACTS**
- Project Manager: Mr. J. Ghasemi

**CLIENT CONTACTS**
- Person-in-charge: Mr. Tayebi
  - Tel: 06152174555

### 264^th^ Project

**Water and Fire foam network, fire extinguishing and Cooling systems In tanks and equipment of Aromatic Plant**

**CLIENT**
Bandar Imam Petrochemical Company (BIPC)

**DESCRIPTION**
The purpose of this project is modeling and updating of fire water/foam networks and also updating of fire fighting and cooling systems. To design of fire water/foam networks at first we must have an exact information about all of the consumers such as number of hydrants, monitors, cooling systems and etc. that are in service and also theirs flow rates and then we can start to calculate of fire water/foam networks pipe sizes. In this project after completion of new designing we must connect old fire fighting and cooling systems to new fire water/foam networks and this needed to modeling of old systems to know about pressure and flow rate of each system.

**CONTENTS**
- Modeling of present fire fighting & cooling systems
- Updating of fire fighting and cooling systems
- Design and Modeling of new fire fighting & cooling systems
- Prepare of new P&ID documents

**STATUS**
Commenced

**CONTACTS**
- Project Manager: Mr. R. Habibi

**CLIENT CONTACTS**
- Person-in-charge: Mr. Arpanahi
  - Tel: 061-52253313
### 263 TH Project
Steam Generation Unit of Persian Gulf Bid Boland Gas Treating Plant

**CLIENT**
Azarab Industries Company

**DESCRIPTION**
Bid Boland Company decided to porches three boilers from AZARAB with capacity of 120T/H to supply required steam for project. The equipment in this project are boiler, Forced Drift Fan, Phosphate injection package, online analyzer, Continuous and Intermittent Blow Down (CBD & IBD) tanks.

**CONTENTS**
- HAZOP Study
- SIL Study

**STATUS**
Finished

**CONTACTS:**
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
Person-in-charge: Mr. Borhani
Tel: 08633136200

### 262 TH Project
CO2 Compressor Package of MEG Unit of Bushehr Petrochemical Co

**CLIENT**
Persian Petro Gas Company

**DESCRIPTION**
The purpose of this project is to pressurize inlet gas to 52 bara via CO2 compressor in Bushehr MEG plant and including process of the compressor, sealing and lube oil system.

**CONTENTS**
- HAZOP Study
- SIL Study

**STATUS**
Commenced February 2018

**CONTACTS:**
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
Person-in-charge: Mr. Shokry
Tel: 02128162816
Details of Projects

261TH Project

Hamedan Ibn Sina Petrochemical Ethylene Oxide, Ethanol Amine, Glycol Ether and Ethoxylation Plants

CLIENT

Hamedan Ibn Sina Petrochemical Company

DESCRIPTION

In the present project HAZOP studies was done for Hamedan Ibn Sina Petrochemical Ethylene Oxide, Ethanol Amine, Glycol Ether and Ethoxylation Plants. Ethylene Oxide Plant with Capacity of 120 tons/year has been designed for high purity EO production which is the main product of this unit and over than 90% is being used as a feed in downstream units, including Ethoxylates, Ethanol Amine and Glycol Ether. This product will be produced in a fixed bed reactor at the presence of silver catalyst loading on Alumina. In Ethoxylation Plant, Ethoxylated products will be produced in Batch process (CSTR reactors) and in other two units respectively, ethanol amine will be produced in a continuous process with ethylene oxide and ammonia in a PFR reactor at low temperature and high pressure and glycol ether will be produced with Ethylene Oxide, alcohol and catalyst solution in PFR reactor at the pressure of 3~4 MPa and temperature of 120~170°C. This study has been conducted in presence of representatives from SHELL, BUSS ChemTech, SULZER and HPC engineering team at the place of HPC office.

CONTENTS

- HAZOP Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Mahdavi Sadr
Tel: 021-22361590

260TH Project

BD Unit of Basparan Bandar Imam Petrochemical Complex

CLIENT

Bandar Imam Petrochemical Company (BIPC)

DESCRIPTION

For the separation of 1 and 3 butadiene, the extraction and distillation separation method is used for the separation of olefine (C4cut). The solvent used is normal methylpyrrolidone (NMP). After ingestion, the feedstock is introduced into the towers which consists of three towers with NMP solvent. The C4 mixture is divided into two parts in the main tower (first tower). The top product series of this tower, which is basically made up of butanes, butanes and stones, along with other Raffinate they are collected in a tank (Raffinate Surge Tank). The remaining hydrocarbons are absorbed by the solvent and sent to the second tower. This stream is composed of 1 and 3 butadiene crude, propylene, 1 and 2 butadiene, vinyl acetylene and ethyl acetylene, and the NMP is separated from the tower to recover from the tower and is disposed of Vinyl acetylene and a number of other impurities are detached in the tower of washing

CONTENTS

- HAZOP Study

STATUS

Completed November 2017

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gashas
Tel: 06152252381
Details of Projects

259th Project

Completion of 56 Inch Gas Pipeline from Aftab Gas Refinery to IGAT-7

CLIENT
Maroon Karan Company

DESCRIPTION
This project includes different sections including: 94 km of 56 inch gas pipeline, LBV stations, cold vent stacks, pig launcher inside Aftab gas refinery, pig receiver and buildings. The Hazard identification methods that used were HAZOP and HAZID. Regarding the type of equipment which were studied in this project, HAZID methodology was established based on Kent Muhlbauer method.

CONTENTS
- HAZOP Study
- HAZID Study

STATUS
Commenced December 2017

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. Taghavifar Tel: 021-22382521

258th Project

Register (MDR) list in industrial projects

CLIENT
Bandar Imam Petrochemical Company (BIPC)

DESCRIPTION
The purpose of this project is preparing of Master Document Register (MDR) list in health, safety and environment (HSE) field to achieve to integrity engineering supervision in the Future plan and also fire fighting, fire and gas detection systems. The present project will help to prevent of any deviation in the all of project engineering stages. This project includes feasibility study, basic design, detail design and demolition phase.

CONTENTS
- Prepare of master document register for Safety Engineering Projects

STATUS
Commenced

CONTACTS:
Project Manager: Mr. R. Habibi

CLIENT CONTACTS:
Person-in-charge: Mr. Taheri Tel: 061-52253310
### Details of Projects

#### 257\(^{TH}\) Project

**CLIENT**

Bandar Imam Petrochemical Complex (BIPC)

**DESCRIPTION**

Design of portable fire extinguisher (include: Volume, type, quantity and layout of portable fire extinguishers) at utility & process units to extinguish of fire in initial minutes and prevent of fire development.

**CONTENTS**

- Portable fire extinguisher equipment layout
- Data sheet for portable fire extinguishers
- Data sheet for bondboxes
- Fire extinguisher equipment list
- Data sheet for wheeled fire extinguishers

**STATUS**

Commenced

**CONTACTS**

Project Manager: Mr. R. Habibi

**CLIENT CONTACTS**

Person-in-charge: Mr. Arpanahi

Tel: 061-52253313

#### 256\(^{TH}\) Project

**CLIENT**

- Confidential

**DESCRIPTION**

- Confidential

**CONTENTS**

- Confidential

**STATUS**

- Confidential

**CONTACTS**

Project Manager: -

**CLIENT CONTACTS**

Person-in-charge: -

Tel: -
Details of Projects

255TH Project
Kimia and Basparan Bandar Imam Petrochemical Complex

CLIENT
Bandar Imam Petrochemical Company (BIPC)

DESCRIPTION
AIPCECO invited by Bandar Imam Petrochemical Complex (BIPC) to carry out an inspection for fireproofing implementation in Kimia and Basparan Petrochemical complexes. In this project, which performed first time in Iran, after site visit, and investigation of the fireproofing implementation, observed defects in the fireproofing implementation as well as required items that must performed by contractor were reported to the client.

CONTENTS
▪ Fireproofing Study

STATUS
Commenced: Nov 2017

CONTACTS:
Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Ghashass Tel: 09163138380

254TH Project
LP Compressor Station for Gathering of 2nd Stage Excess Gas in Gachsaran I & II Production Units

CLIENT
Maroon Karan Technical and Engineering Company

DESCRIPTION
In this project, the LP Compressor station is installed downstream of 2nd stage Separators to in order to gather and pressurize excess gas from 1 barg to 6 barg and send it toward downstream HP compressor station. There are three parallel Compressor trains which of works 2+1 arrangement. The HAZOP meeting was performed in presence of managers and engineers from NISOC, master operators of Gachsaran Oil and Gas Operation Company and Maroon Karan technical and engineering company, at Maroon Karan office in Tehran.

CONTENTS
▪ HAZOP Study

STATUS
Completed December 2017

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. S. Taghavifar Tel: 021-22382521
Details of Projects

253 TH Project

Esfahan Oil Refinery- Five Utility Packages Project

CLIENT

Neyr Perse Company

DESCRIPTION

The utility packages of Esfahan Oil Refinery for DHT contains: 1- Oily Water and Sanitary Package: The object is to achieve environmental standard for disposal in order to reuse the water in the processing plant mainly as much as possible, principally as make up for cooling towers or to reuse for demin unit. In general, oily Water Treatment Plant consists of following main process units including Oily water treatment (API, Oily Waste DAF, Activated sludge & Clarification) and Pretreatment & RO (Reuse DAF, UF and RO trains), this package is designed by Andisheh Zolal Iran company. 2- Cooling Tower Package: the cooling system is open loop circulating system in which, the return warm water from process and utility plants will be cooled down by evaporation inside cooling cells, this package includes cooling tower, chemical dosing system and self-cleaning filters, this package is designed by Farabard company. 3- LP Condensate Package: the objective of this package is regeneration of steam from condensates and it is designed by AAC Company. 4- Steam Boiler Package: the objective of this package is producing required steam for the refinery and it is designed by Azarab company. 5- CPP, DM and Deoiling Package; the objective of this package is producing DM water and it is designed by Shafab company.

CONTENTS

- HAZOP Study

STATUS

Completed May 2017

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Mashhadi Moslem
Tel: 021-22534128

252 TH Project

Pasargad Oil Company

CLIENT

Pasargad Oil Company

DESCRIPTION

AIPCECO invited by Pasragad Oil Company (POC) to carry out Fire and Explosion Risk Assessment in Pasragad Oil Company by using DOW Method. The fire risk assessment is process that estimates risk of fire and explosion. In this project, at first, fire scenarios were defined. After defining fire scenarios, frequencies and consequences of fire scenarios were determined and final risk was calculated and investigated. The purpose of fire risk assessment is to determine the area with high risk level of fire and explosion. At the end, recommendations and mitigation measurements were presented for reducing fire risk to acceptable level

CONTENTS

- Fire and Explosion Study by Using DOW Method

STATUS

Commenced March 2018

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:

Person-in-charge Mr. Anabestani
Tel: 02123036000

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## Ethylene Letdown Station of Arvand Petrochemical Company

**CLIENT**
Arvand Petrochemical Company

**DESCRIPTION**
Ethylene gas is supplied from West Ethylene Pipeline for some consumers in Mahshahr (Petrochemical Special Economic Zone). Therefore, Ethylene Gas Letdown station has been designed for decreasing pressure from 72 (in West Ethylene Pipeline) to 27.6 bar for consumers and has been installed in Arvand Petrochemical Complex. The station consists of two cartridge filter (one working and one standby), first pressure regulating valve (from 72 to 45 bar), one heating section (composed: Water Bath Cooler, HPS Letdown, ethylene evaporator, methanol heater, circulation pump), two identical trains of final pressure regulating (each train mainly consisting of active and monitor regulators), two identical metering trains (each train mainly consisting of inlet isolating valve, Ultrasonic gas meter and outlet isolating valve) and final flow control valve.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced October 2017

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Nekoei  
  Tel: 09163090896

## Central Waste Water Treatment of Bandar Imam Petrochemical Complex

**CLIENT**
Bandar Imam Petrochemical Company (BIPC)

**DESCRIPTION**
Location and state of process plant buildings is a matter of considerable concern in the process units. Potential hazards including fire, explosion, and toxic releases can affect occupants of process plant building. So, identifying potential hazards and analyzing their consequences can help to risk management by considering appropriate and cost-effective risk reduction methods for high risk areas. Central waste water treatment unit of Bandar Imam Petrochemical Complex has a control room and a substation building. The waste water treatment unit is adjacent to CA, VC and MTBE units as well as flares of olefin, NF1&2, NF3 and MTBE units. Main purposes of this study are:
- Identifying potential hazards and selecting credible scenarios in the adjacent units;
- Consequence evaluation for the buildings and occupants;

**CONTENTS**
- Blast Study

**STATUS**
Commenced 2017

**CONTACTS:**
- Project Manager: Mr. J. Ghasemi
- Person-in-charge: Mr. A. Ghasas  
  Tel: 09163138380
Details of Projects

249TH Project Abadan Refinery Upgrading Project-Phase 1 (CDU, VDU and LPG Recovery Unit)

CLIENT
Oil Design and Construction Company (ODCC)

DESCRIPTION
In the Present project HAZOP and SIL studies was done for Abadan Refinery upgrading units included Crude Distillation Unit (CDU), Vacuum Distillation Unit (VDU) and LPG Recovery Unit. The equipment that is studied was heater, heat exchanger, surge drum, distillation column, vacuum distillation column, stripper, condenser, chemical injection system, centrifugal pump, fin fan cooler, debutanizer, deethanizer, depropanizer, LPG Amin contactor, coalesce, etc. All sessions were guided by an international leader introduced by AIPCECO-NRGTech JV in Tehran. In the end of HAZOP meetings, SIL assignment was performed by a semi quantitative method named LOPA.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Commenced

CONTACTS:
Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. M.Alizadeh
Tel: 021-27133002

248TH Project JAM Petrochemical Complex

CLIENT
Jam Petrochemical Company

DESCRIPTION
The present project is defined for analyzing hazards of around 750 job titles of Jam Petrochemical company. Addition to hazard identification and risk assessment by JHA method, other outputs such as PPE, Training and procedure specification for each job are reported.

CONTENTS
- Job specifications including PPE, Training and required procedures
- Job HSE description
- Job HSE description

STATUS
Commenced

CONTACTS:
Project Manager: Ms. P. Saeedi

CLIENT CONTACTS:
Person-in-charge: Mr. M.Esamaeili
Tel: 07737323221-5-(2745)
Details of Projects

247th Project  
Tehran Parks & Green Space Organization

CLIENT  
Municipality of Tehran- Tehran Parks & Green Space Organization

DESCRIPTION  
The present project is defined for analyzing hazards of 125 job titles of Municipality of Tehran Tehran Parks & Green Space Organization. Addition to hazard identification and risk assessment by JHA method based on Job HSE worksheets of municipality, other outputs such as Training for each job and Management report of analysis of identified hazards on all jobs are reported.

CONTENTS  
- Job specifications including Training and Management report of analysis of identified hazards  
- Job HSE description  
- JHA worksheets

STATUS  
Commenced June 2016

CONTACTS:  
Project Manager: Ms. S. Lajhjani Khosroshahi

CLIENT CONTACTS:  
Person-in-charge: Ms. F. Mirshafiei  
Tel: 021-77714346

246th Project  
Amir Kabir Petrochemical Company

CLIENT  
Amir Kabir Petrochemical Company

DESCRIPTION  
AIPCECO was invited by Amir Kabir Petrochemical Company (AKPC) to conduct a Fireproofing Study for Olefin, B1, BD, LDPE, LLPDE and HDPE plants. In this project, semi qualitative risk method was carried out to determine equipment and structure that must be fireproofed. At end of this project, for implementing fireproofing, requirement thickness, and appropriate material which certified by UL, were selected and introduced to client.

CONTENTS  
- Engineering Studies of Fireproofing

STATUS  
Commenced Sep 2017

CONTACTS:  
Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:  
Person-in-charge: Ms. Ghanavati  
Tel: 09163545917
### 245TH Project

**Siraf Condensate Refinery Project-Jetty System**

**CLIENT**  
Energy Industries Engineering & Design (EIED)

**DESCRIPTION**  
The Jetty system of Siraf gas refinery complex includes five berths. Four berths have been considered for Light/Heavy Naphtha/kerosene/Diesel products from 8 refineries. Moreover berth 5 is considered for LPG & residue products of all refineries. The capacity of each loading arm for transferring Light/Heavy Naphtha/kerosene/Diesel is 4800 m³/hr, LPG is 1254 m³/hr and residue is 493 m³/hr.

**CONTENTS**  
- HAZOP Study

**STATUS**  
Commenced Aug 2017

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- Client Contacts:
  - Person-in-charge: Mr. Forouzanmehr  
  - Tel: 021-22565040

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### 244TH Project

**West Karun power plant & facilities gas & water supply project**

**CLIENT**  
Jahanpars Company

**DESCRIPTION**  
The present project is consist of water transmission station and pipeline with maximum capacity of 81 m³/h and 23 km length, and also a sweet gas pressure reducing station with the capacity of 110000 Nm³/h. Hazard identification and risk assessment is done by HAZOP, HAZID, SIL, and QRA studies. The equipment that is studied in water transmission station are water pumps, air compressors, and surge drum and in pressure reduction station are water transmission pipeline, scrubber, filter scrubber, water bath heater, filter, and pressure control valves.

**CONTENTS**  
- HAZOP Study
- SIL Study
- HAZID Study
- QRA

**STATUS**  
Commenced August 2017

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- Client Contacts:
  - Person-in-charge: Ms. A. Karimi  
  - Tel: 021-27624690
### 243th Project

**Client Instrument and SRS Development for Parsian C2 Recovery and C2+ Fractionation Project**

**CLIENT**

Hampa Energy Engineering and Design Company (HEDCO)

**DESCRIPTION**

Parsian C2 Recovery and C2+ Fractionation Plant with Capacity of 80 MM Sm3 /day of Natural Gas has been designed for Methane (Sale Gas), Ethane and C2+ components production. This plants contents dew point control system, mercury removal system, Demethanizer column, flare, HC collection system, water treatment system and other utility systems. This study has been conducted in presence of representatives from HEDCO engineering team at the place of HEDCO office in Shiraz province.

**CONTENTS**

- SIL Assignment
- Development of SRS
- SIL Verification

**STATUS**

Commenced July 2017

**CONTACTS:**

Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

Person-in-charge: Mr. Pasalari

Tel: 071-32136000

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### 242th Project

**LPG Road Tanker unloading in Amir Kabir Petrochemical Company**

**CLIENT**

Amir Kabir Petrochemical Company

**DESCRIPTION**

In this project, hazards of entrance and exit path of LPG road tanker at near spherical tanks area were investigated. Furthermore, safe location for LPG road tanker unloading was determined. Safe location was calculated by using consequence modeling method. Also, standard and credible specification were used for determining the safe location.

**CONTENTS**

- Consequence Modeling

**STATUS**

Commenced Jul 2017

**CONTACTS:**

Project Manager: Mr. J. Ghasemi

**CLIENT CONTACTS:**

Person-in-charge: Mr. Ghanavati

Tel: 09163545917
Details of Projects

241TH Project  Parsian C2 Recovery and C2+ Fractionation Project

CLIENT
Hampa Energy Engineering and Design Company (HEDCO)

DESCRIPTION
Parsian C2 Recovery and C2+ Fractionation Plant with Capacity of 80 MM Sm3/day of Natural Gas has been designed for Methane (Sale Gas), Ethane and C2+ components production. This plants contents dew point control system, mercury removal system, Demethanizer column, flare, HC collection system, water treatment system and other utility systems. This study has been conducted in presence of representatives from HEDCO engineering team at the place of HEDCO office in Shiraz province.

CONTENTS
- HAZOP Study

STATUS
Commenced July 2017

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Paselari  Tel: 071-32136000

240TH Project  Desalter Package for Central Processing Facilities of AZAR Oil Field Development Project

CLIENT
Gastech Company

DESCRIPTION
The Azar oil field is located in the Zagros foreland basin along the Iran/Iraq border, 15 Km southeast of Mehran city. Two developed oil fields near to the Azar oil field are Dehluran and Cheshmeh Kosh. The subjected packages of this project include two 256.8 m3/hr trains of Two-Stage Desalter packages in addition to dilution water circulation pumps and relevant instrumentation. The subjected desalting packages are designed to achieve the required performance and treatment within the set and defined conditions and guarantees.

CONTENTS
- HAZOP Study  - SIL Study

STATUS
Commenced

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Ms. Monshi  Tel: 021-22646501
Details of Projects

239 TH Project
Raw materials warehouses and PVC unit warehouse

CLIENT
Bandar Imam Petrochemical Complex (BIPC)

DESCRIPTION
The purpose of this project is to check the existing status of safety, health and environment in warehouses of raw materials and PVC unit and to assess compliance with the latest version of the relevant standards in each field. In this project, it is attempted to categorize all identified non-conformities by considering the mandatory components or proposed standards, and finally, each identified case is prioritized and presented as a solution and a corrective proposal by considering the ability of performing corrective actions and cost of eliminating non-compliances. It should be noted that issues such as testing, repairs and periodic visits, management decisions, effectiveness, etc., are critical to prioritizing the proposed strategy and the proposed corrective action.

CONTENTS
 HSE Gap Analysis studies

STATUS
Commenced

CONTACTS:
Project Manager: Mr. R.Habibi

CLIENT CONTACTS:
Person-in-charge: Mr. Gashas
Tel: 061-52253330

238 TH Project
Design & implement of training software according to Process Safety Management (PSM) training

CLIENT
Bandar Imam Petrochemical Company (BIPC)

DESCRIPTION
Regarding to be available training matrix of HSE courses according to PSM, that’s necessary to be provided training courses for personnel in a planned training software systematically. Therefore, in the first phase, the consultant engineers match up the HSE training courses held in the past with the planned courses in PSM training matrix. This phase will be performed based on the consultant’s documented methodology. In the next phase, consultant is responsible for great supervision on programming company’s performance with regard to all client’s requirements and qualifications, such as how to hold courses, workflows, HSE training process procedures to be relevant programming and installing software to client’s requests.

CONTENTS
 Design & implement of training software according to process safety system training

STATUS
Commenced

CONTACTS:
Project Manager: Mr. S.Khosroshahi

CLIENT CONTACTS:
### Details of Projects

**237 TH Project**

#### Basparan Complex by Using Credible References

**CLIENT**

Bandar Imam Petrochemical Complex (BIPC)

**DESCRIPTION**

BIPC gave dike wall standardization Basparan complex to AIPCECO, include dike wall of PP, LD, HD, BD/SR. Object of this project, determine need or no need dike wall, calculate required volume of dike wall, height of dike wall, determine need intermediate dike wall, separate dike walls and finally appropriate safety and operation recommendation in regard to credible standards and guidelines.

**CONTENTS**

- Dike Wall Standardization

**STATUS**

Commenced

**CONTACTS**:

- Project Manager: Mr. J. Ghasemi

**CLIENT CONTACTS**:

- Person-in-charge: Mr. Alavi/Ghasas

### 236 TH Project

#### Nafte Sefid Oil Field Gas and Oil System Optimization and Renovation Project (Detailed Eng. Phase)

**CLIENT**

Tarhandishan Consulting Engineers Company

**DESCRIPTION**

This project consists of design and construction of new oil production unit and gas gathering and compression station in NaftSefid oil field to produce 20000 STB/Day sweet crude oil for transfer to Haftkel via main oil transfer pumps. Separated gases from production unit will be gathered and compressed in several stages and then will be transferred to Masjed-Soleiman in conjunction with incoming gases from separation station. New Oil and Gas production unit will be located at 2.4 km southeast of existing production unit. Moreover, 25000 STB/Day dead oil from Masjed-Soleiman will be received in production tank and then transferred to Ahwaz via dead oil transfer pumps.

**CONTENTS**

- HAZOP Study
  - HAZID Study
  - SIL Study

**STATUS**

Commenced July 2017

**CONTACTS**:

- Project Manager: Mr. R. Johari Nad

**CLIENT CONTACTS**:

- Person-in-charge: Ms. Gholami

Tel: 021-88828270
235th Project - Effluent Treatment Plant-VOC Gases Treatment

**CLIENT**
Payesh Zist Azma (EMACO)

**DESCRIPTION**
This unit is planned for burning VOC Gases raising from Effluent treatment basins in Fajr Petrochemical Company, Mahshahr. The basins are covered with 19 fixed covers and 5 moving covers made of GRP for accumulate vaporized VOCs (Volatile Organic Components) from basins. Accumulated VOC routed by duct to Scrubber for removal corrosive acid elements. Then VOCs transfer to (furnace) RTO (Regenerative Thermal Oxidizer) for oxidizing and then flue gas release to atmosphere by stack.

**CONTENTS**
- HAZOP Study
- Safety Study

**STATUS**
Commenced July 2017

**CONTACTS:**
Project Manager: Mr. R. Habibi

**CLIENT CONTACTS:**
Person-in-charge: Mr. Ghiasi
Tel: 021-44267401-3

234th Project - New 20" Feed Gas Pipeline and Facilities of BIPC Ab-Niroo

**CLIENT**
Bandar Imam Khomeini Petrochemical Company (BIPC)

**DESCRIPTION**
New 20" Feed Gas Pipeline and Facilities has been designed and constructed for transferring and feeding sweet gas to BIPC GTs in power generation unit (Ab-Niroo). This 20" Pipeline is about 16 kilometer and Hot Tap branched from 30" Pipeline header that located in "Besat" city in Mahshahr. Project consists of Metering Package (Out of scope of HAZOP Study), Pipeline, Pig Launcher and Receiver, LBV station.

**CONTENTS**
- HAZOP Study

**STATUS**
Completed May 2017

**CONTACTS:**
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
Person-in-charge: Ms. Shahidiani
Tel: 0615-2255410
233 TH Project

Sour Gas Interconnecting Pipeline between South Pars Refineries

CLIENT
SAZEH Consulting Engineers Company

DESCRIPTION
POGC has intended to develop the Sour Gas Interconnecting Pipelines Project between SOUTH PARS PHASES in Site-1 in Assaluyeh area & Site-2 in Tombak / Akhtar area. View to ensuring the stability of the processing gas treatment, prevention of any cessation of production and reducing the South Pars gas reservoir, establish of the pipelines interconnection for use of the maximum processing capacity of gas plants in Assaluyeh and Tombak is underway.

CONTENTS
- HAZID Study

STATUS
Commenced May 2017

CONTACTS:
Project Manager: Mr. R. Johari

CLIENT CONTACTS:
Person-in-charge: Mr. Ahmad Bodaghi  Tel: 88507461

232 TH Project

Potable Water & Reverse Osmosis Packages of Azar Oil Field

CLIENT
AVE Company

DESCRIPTION
The RO package of “AZAR Oil Field Development” project consists of pretreatment, RO Unit, storage and transferring, Chemical injection packages and Cleaning in place (C.I.P) package. The raw water feed of RO is Supplied from rivers or well and the product water is sent to potable and industrial users.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Completed June 2017

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Saboori  Tel: 021-26126088
231<sup>TH</sup> Project  Filling station (gasoline and Gas oil) and study HSE requirements in construction and production

**CLIENT**
Bandar Imam Petrochemical Company

**DESCRIPTION**
This project explains Health, safety and environment points for relocating filling station (Gasoline and Gas oil). In the first stage, all of the standards and requirements is considered and relevant points are reported to client. In the second stage, Hazards are investigated by using Quantitative Risk Assessment (QRA) method and the results are used for consequence identification of event on existing people.

**CONTENTS**
- QRA

**STATUS**
Commenced

**CONTACTS**
- Project Manager: Mr. J. Ghasemi
- **CLIENT CONTACTS:**
  - Person-in-charge: Mr. D. Cherazi
  - Tel: 06152253308

230<sup>TH</sup> Project  Utility and Off-site Units of Esfahan Oil Refinery

**CLIENT**
NEYRE PERSE (MAPNA Group)

**DESCRIPTION**
In this project, Feed and Products Storage Tanks & Loading Facilities (Unit-50), Air Generation and Distribution Unit (Unit-42), Clarified Water Storage and Distribution Unit, Fire Water System and Cooling Tower Unit (Unit-42), Flare Unit (Unit-35) and also Fuel Gas and Fuel Oil Units (Unit-43) for DHT Unit of Esfahan Oil Refinery Company were studied. These Storage tank are used for these products: Propane, Butane, Propylene, Gasoline, Gasoil, LPG, Raw Water, Fire Water and etc. Moreover, this studies was performed by Cooperation of MYND Company, AIPCECO Italian JV, during three days. At the first day of studies a training course was performed with focus on Functional Safety issues and on two other days SIL Assessment studies was done. The Lecturing of training course and Leadership of studies was done by Mr. Davide Enrico Arnoldi from MYND. These studies was performed in presence of EORC, HEIDCO, NEYR PERSE and MONENCO companies representatives.

**CONTENTS**
- SIL Assignment Study

**STATUS**
Commenced April 2017

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- **CLIENT CONTACTS:**
  - Person-in-charge: Mr. H. Mashhadimoslem
  - Tel:021-23534128

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Tel/Fax: +9821-88871504, 527, 531 and 547

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Improving and Maintaining HSE-MS in Tehran Park and Gardens Organization

CLIENT
Park & Gardens Office Organization of Tehran Municipality

DESCRIPTION
Regarding to importance of HSE management system for client to organize & improve health, safety & environments subjects in its activities & programs and consequently reduce losses, occupational accidents & environmental impacts, continuous maintaining & development of HSE is be conducted. All activities & programs related to maintain HSE management system in this organization (client) is compliance with HSE management system requirements of Tehran municipality. To achieve to considered results, following items will be perform:

- General activities related to maintaining management systems.
- Planning and reviewing of documents.

CONTENTS
- HSE-MS Consulting Services
- HSE-MS Training

STATUS
Commenced January 2017

CONTACTS:
Project Manager: Ms. Skhosroshahi

Client Contacts:
Person-in-charge: Ms. Mirshafiee

Product Loading Arms of Esfahan Oil Refinery

CLIENT
Petro Tech Sun Company (PTS)

DESCRIPTION
Loading Arms and relevant Utility Lines of Esfahan Oil Refinery have been designed for transferring AW400 solvent, AW402 Solvent, AW406 Solvent, AW410 Solvent, Lube Oil, ISO Recycle and Vacuum Bottom. This projects includes lines, 4 pumps for transferring ISO Recycle and Vacuum Bottom, 6 Loading Arms for transferring solvents, 6 Loading Arms for transferring Vacuum Bottom, 2 Loading Arms for transferring ISO Recycle, 4 Loading Arms for transferring Lube Oil and Utility Lines (Potable Water, Plant Water, Air Instrument, Hot Condensate and Steam).

CONTENTS
- HAZOP Study

STATUS
Completed April 2017

CONTACTS:
Project Manager: Mr. R. Johari Nad

Client Contacts:
Person-in-charge: Mr. A. Hojat Panahi
Tel: 021-88065502
### 227th Project

**Electricity Post displacement and Flare Layout in OL2 Unit of BIPC**

**CLIENT**

Bandar Imam Petrochemical Company

**DESCRIPTION**

This project explains best layout for OL2 plant. In this project, AIPCECO studies limitation and possibility of land use in West Side of Bandar Imam Petrochemical Complex. At first stage, standard boundary of each equipment and adjacent facility will be considered and analyzed. At second stage, flare layout for OL2 Plant and its appropriate distance to Flare of Aromatic plant will be considered by using TOTAL Spec.

**CONTENTS**

- Hazard Study
- Feasibility Study

**STATUS**

Commenced December 2016

**CONTACTS**

- Project Manager: Mr. J. Ghasemi

**CLIENT CONTACTS**

- Person-in-charge: Mr. Musavion / Mr. D. Cherazi
  - Tel: 0615-2253308

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### 226th Project

**Reviewing the existing conditions and presenting procurement solutions in HSE field in the Workshops and Warehouses of Sharif University of Technology**

**CLIENT**

Sharif University of Technology

**DESCRIPTION**

In order to protect & preserve university's personnel & assets, also proceed to establish HSE management system, hazard identification & risk assessment programs are be implemented in university workshops. In this regard, to reduce hazards & control risks for workshop's members (includes students, professors & office personnel) who are exposed to hazards, safe working instructions & procedures has been provided. Therefore, to familiar with these instructions for members, general and specialized safety training courses will be held.

**CONTENTS**

- Check & review HSE non-conformities
- Building Plot Plan & Layout Review
- Checklists Development
- Risk Assessment
- HSE Instructions Development

**STATUS**

Commenced September 2016

**CONTACTS**

- Project Manager: Ms. S. Khosroshahi

**CLIENT CONTACTS**

- Person-in-charge: Mr. Arghavani / Mr. Zahedifar
  - Tel: 021-66005418
### 225TH Project
**Sour Gas Interconnecting Pipelines between South Pars Refineries for Site 1&2**

**CLIENT**
SAZEH Consulting Engineers Company

**DESCRIPTION**
The Interconnecting Pipelines Between South Pars Refineries has been designed in order to transfer wet sour gas between North and South sides of South Pars Refineries. The project is consist of a North Corridor (Site 1) which involves with Phases 2-3, 4-5, 6-7-8, 9-10, 15-16, 17-18 and 20-21 and a South Corridor (Site 2) which involves Phases 12, 13, 14, 19 and 22-24 of South Pars Refineries. Meetings were held in presence of P.O.G.C, SAZEH, PETROPARS representatives, and representatives from involved phases from South Pars Gas Company and OIEC at SAZEH office.

**CONTENTS**
- HAZOP Study
- SIL Assignment Study

**STATUS**
Completed October 2016

**CONTACTS:**
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
Person-in-charge: Mr. A. Bodaghi  
Tel: 021-88507461

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### 224TH Project
**Azar Oil Field Development Project**

**CLIENT**
Jahanpars Company

**DESCRIPTION**
Petroleum Engineering and Development Company (PEDEC) has planned to develop AZAR oil field including a Central Processing Facilities (CPF) which is a production unit. Operating capacity of the CPF is 65000 BOPD. Reservoir fluid from each well of AZAR oil field will be routed to the inlet manifold of the CPF via a separate flow line. On arrival into CPF crude oil, associated sour gases and water will be separated and processed to meet the product specifications. The on-spec oil and associated sour gas will be exported via dual separate buried pipelines respectively to Cheshmeh Khosh and Dehloran facilities (NGL-3100).

**CONTENTS**
- HAZOP Study of Packages
- HAZID Study in Construction Phase
- HAZID Study in Commissioning Phase

**STATUS**
Completed February 2017

**CONTACTS:**
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
Person-in-charge: Mr. Ahmadpour  
Tel: 021-88948695
<table>
<thead>
<tr>
<th>223&lt;sup&gt;TH&lt;/sup&gt; Project</th>
<th>Loading LPG in Tombak Service and Export Port</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLIENT</strong></td>
<td>Omran Sahel Company</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Tombak service and export port has been designed for exporting LPG produced in South Pars phases 13 and 22-24. In this study, Quantitative risk analysis is performed on marine LPG terminals sited in the port. In this project risk assessment of facilities, navigation, and loading operations for the terminals with a special regard to accident frequency estimation has been presented. This study focuses on likely accidents with potential of severe consequences which may happen in the break water, and port waters during loading operation and ship moving. Facilities of the LPG terminals for loading operation in two berths as well as the tanker at the berths, and transshipment in the port waters are concerned in scope of the study which is carried out within two phases.</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td>▪ Quantitative Risk Assessment (QRA)</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Commenced January 2017</td>
</tr>
<tr>
<td><strong>CONTACTS:</strong></td>
<td>Project Manager: Mr. J. Ghasmi</td>
</tr>
<tr>
<td><strong>CLIENT CONTACTS:</strong></td>
<td>Person-in-charge: Mr. Mehdikhani</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>222&lt;sup&gt;TH&lt;/sup&gt; Project</th>
<th>South Pars Gas Refineries I &amp; II Common Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLIENT</strong></td>
<td>Borna Tadbir Company</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Pars I&amp;II Common Corridor has been designed for transferring Ethane, Start-up Fuel Gas, Sari-Asalouyeh Sour Gas, Gas Condensate, LPG (Propane and Butane) and Dry and Wet Sour Gas between the Phases in North Corridor, in addition to C2 Recovery Pipeline Between Phase 1/2&amp;3 to Pars Petrochemical. The studies were performed at the of P.O.G.C office.</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td>▪ HAZOP Study ▪ HAZID Study</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Commenced January 2017</td>
</tr>
<tr>
<td><strong>CONTACTS:</strong></td>
<td>Project Manager: Mr. R. Johari Nad</td>
</tr>
<tr>
<td><strong>CLIENT CONTACTS:</strong></td>
<td>Person-in-charge: Mr. Niknafs Tel:021-26602550</td>
</tr>
</tbody>
</table>
**221TH Project**  
**West Karun Oil Transmission Capacity Increase Project**

**CLIENT**  
Tarh-o-Palayesh Engineering Company (TOP)

**DESCRIPTION**  
This project includes Pipeline, Pig Launcher and Receiver Facilities and Pump stations. Heavy Crude Oil is transferred from new pump station of west Karun by 42” Pipeline to new pump station of Omidieh and then is transferred to Bahregan Metering System and Petro-Omid Asia storage, in addition to Light Crude oil which is transferred from Korait Camp by 30” Pipeline to old pump station of Omidieh.

**CONTENTS**  
- HAZOP Study  
- HAZID Study

**STATUS**  
Commenced October 2016

**CONTACTS:**

- Project Manager: Mr. V. Hashemi  
- Technical Manager: Mr. M. Minepour

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Maghsudlu  
  Tel: 021-88718944

---

**220TH Project**  
**CO2 Compressor of Lordegan Petrochemical Company**

**CLIENT**  
Havayar Industrial Group

**DESCRIPTION**  
Synthesis gas compressor of an ammonia production unit is one of the most sensitive facilities in the term of safety and operability. In this regards, Havayar put the responsibility of this HAZOP study to AIPCECO. Meetings of this study was held in Prague and led by Mr. Anthony Tonna from EPEn (European joint-venture of AIPCECO). Howeden-CKD was the supplier of this compressor and meetings took 5 days to complete in presence of experts and engineers from Havayar, HCKD, EKOL and CKD Energy.

**CONTENTS**  
- HAZOP Study

**STATUS**  
Finished

**CONTACTS:**

- Project Manager: Mr. R. Johari nad

**CLIENT CONTACTS:**

- Person-in-charge: Mr. A. Mirkhani  
  Tel: 021-88202424 #1619
Details of Projects

219th Project  Laleh Low Density Polyethylene (LDPE) of Marun Petrochemical Company

CLIENT
Laleh Petrochemical Company

DESCRIPTION
The LDPE Clean Tubular Reactor technology process for the production of low-density polyethylene by means of high-pressure polymerization has been designed by Stamicarbon and currently is used in LALEH Petrochemical Company for producing 300 tons per year Polyethylene. The maximum operating pressure in this unit is 2750 barg which is produced by a special compressor for increasing pressure of ethylene in two stages.

CONTENTS
- HAZOP Study

STATUS
Commenced November 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Ziaei  Tel: 06152122807

218th Project  Parsian C2+ Recovery & Fractionation Project

CLIENT
Hampa Energy Engineering & Design Company (HEDCO)

DESCRIPTION
The Parsian C2+ Recovery & Fractionation Plant has been designed to Produce C1, C2, C3, C4 and C5+ with the design capacity of 80 MMSM3/D Gas as feed from two existing Parsian Gas Treating Plants (PGTP I and PGTP II). The plant is separated in two sites: Site I will be C2+ recovery and Site II C2+ fractionation. Site I is located in Mohr approximately 30 km to the west of Lamerd and 50 km north of Assaluyeh and Site II is located in Assaluyeh. These two sites are connected by C2+ pipeline. Parsian C2+ Recovery & Fractionation Plant included units as below:
- Propane refrigeration compressor with steam turbine drive.
- Deethanizer, Depropanizer, Debutanizer, CO2 Removal (Amine) unit, Ethane Dehydration Unit and related Equipment in one train.
- Cooling tower with desalinated water as make-up.

CONTENTS
- HAZOP Study

STATUS
Commenced November 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Saeedian  Tel: 071-321364419
217TH Project | Hydrogen Transfer Pipeline of Karoon Petrochemical Company

CLIENT
Karoon Petrochemical Company

DESCRIPTION
The scope of this project was the new 3” branch for hydrogen supply of Karoon petrochemical from Bandar Imam complex.

CONTENTS
- HAZOP Study

STATUS
Commenced September 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Tarighi/Mr. Nazari Tel: 09129173687

216TH Project | South Pars Central Combined Cycle Power Plant

CLIENT
Farab Consulting Engineers

DESCRIPTION
The project aim is to bring the existing simple cycle (six V94.2, 160 MW gas turbines) to the combined cycle power plant, which consists of below facilities:
- Auxiliary Cooling System
- Auxiliary Steam Generation
- Clean Drain Collection and Transfer System
- Compressed Air Generation
- Desalinated Water Transfer and Distribution System
- Natural Gas System
- Standby Condensate Transfer and Distribution
- Surface Drainage Collection and Transfer System
- HP Steam Header
- LP Steam Header

CONTENTS
- HAZOP Study

STATUS
Commenced May 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Esmaelvandi Tel: 09131266375
Details of Projects

215th Project
South Yaran Oil Field Development Wellhead Facilities and Flow Lines

CLIENT
Soroush Energy Pooya (SEP)

DESCRIPTION
The South Yaran structure located in 120Km west of AHWAZ is 20 km long and 2.5 km wide. Based on production plan, totally 24,000 barrel/day should be produced from SARVAK and GADVAN layers in South Yaran fields. Gadvan Well site (LOC-11) project is included Wellhead Facilities, Pig Launcher and Flow Line.

CONTENTS
- HAZOP
- HAZID
- SIL
- QRA

STATUS
Commenced November 2016

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Farahani
Tel: 88611201

214th Project
Dalan Pig Launcher/Receiver Facilities of South Zagros Oil and Gas Production Plant

CLIENT
South Zagros Oil and Gas Production Company (SZOGPC)

DESCRIPTION
The study carried out on Dalan to Maroun Pipeline Pig Launcher and Receiver Facilities that located in south of Fars province-Iran. Pigging is used for removing condensate from 42” pipeline that transfer sour gas with approximately 250 ppm H2S content from Dalann to Maroun with 40 Million Standard Cubic Meter Per Day capacity and 120 bars operation pressure. Project consists of Pig Launcher, Pig Receiver and Burn Pit.

CONTENTS
- HAZOP Study

STATUS
Commenced September 2016

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Maleki
Tel: 071-32305591
### Details of Projects

#### 213th Project
**Esfahan Oil Refinery DHT Unit**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>NARGAN Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>This project consists of HAZOP for packages including Nitrogen Production unit with Pressure Swing Adsorption, Chemical Injections, Fired Heaters, Thermal Incinerator, Sulfur Solidification and Solidified Sulphur Storage, Air Blowers, Vacuum Pump, Thermal Reactor, Steam Reformer and Compressors Packages of Esfahan Oil Refining Company (EORC) and also SIL Assignment study of HPU, DHT, SRU and TGT Units of this refinery. The studies was performed in presence of EORC, HEIDCO, NARGAN and package vendor companies representatives at NARGAN company office.</td>
</tr>
<tr>
<td>CONTENTS</td>
<td></td>
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<tr>
<td>- HAZOP Study</td>
<td></td>
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<tr>
<td>- SIL Assignment Study</td>
<td></td>
</tr>
<tr>
<td>STATUS</td>
<td>Commenced October 2016</td>
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<tr>
<td>CONTACTS:</td>
<td></td>
</tr>
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<td>Project Manager:</td>
<td>Mr. R. Johari Nad</td>
</tr>
<tr>
<td>CLIENT CONTACTS:</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge:</td>
<td>Mr. B. Ghasemi Tel: 021-88948695</td>
</tr>
</tbody>
</table>

#### 212th Project
**Construction of Refrigeration Unit of Bidboland Refinery in BIPC**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Bandar Imam Petrochemical Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>In this project, fire zone spacing has been determined using consequence modeling presented by total guidance. After several studies, it is specified that construction of refrigeration unit of Bidboland refinery in adjacent CA is impossible unless recommendation are applied to mitigate undesirable effects.</td>
</tr>
<tr>
<td>CONTENTS</td>
<td></td>
</tr>
<tr>
<td>- Safety Studies</td>
<td></td>
</tr>
<tr>
<td>STATUS</td>
<td>Finished</td>
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<tr>
<td>CONTACTS:</td>
<td></td>
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<tr>
<td>Project Manager:</td>
<td>Mr. J. Ghasemi</td>
</tr>
<tr>
<td>CLIENT CONTACTS:</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge:</td>
<td>Mr. A. Mousaviun Tel: 09166523212</td>
</tr>
</tbody>
</table>
Details of Projects

211th Project

PVC Plant at Bandar Imam Petrochemical Company

CLIENT
Bandar Imam Petrochemical Company (BIPC)

DESCRIPTION
Bandar Imam Petrochemical Company (BIPC) is a producer in area of Chemicals, Aromatics, Polymers, and LPG. BIPC is included of sub companies like Faravaresh, Basparan, Kimiya, Ab Niroo, and Kharazmi. Basparanas one of the greatest producers of polymers in middle east consist of different production plants which one of them is Poly Vinyl Chloride (PVC) Plant. In this project an identification of process hazards was done by HAZOP method and proper recommendation was presented to reduce or omit the risks. Also in order to identify other Non process kind of hazard, a audit was done and a report with the subject of HSE Audit was presented.

CONTENTS
- HAZOP Study
- HSE Audit

STATUS
Commenced August 2016

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Ghashas/ Mr. Mehregan
Tel: 09163138380

210th Project

BIPC Pipelines

CLIENT
Bandar Imam Petrochemical Company

DESCRIPTION
BIPC pipelines is used to transport Naphtha, MTBE, Reformate and LPG between BIPC and terminals which located in out of the BIPC. This project aimed to compare current situation of the pipelines with pipeline standards, codes and regulations, then by identifying items which are not compliant with standards, codes and regulations, some recommendations are made during HAZID study. Further, a risk assessment has been carried out for calculating risk to people and environment in both current situation and when recommendations are applied. These strategies are considered in QRA study.

CONTENTS
- HAZID Study
- QRA Study

STATUS
Finished

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Mousavion
Tel: 09166523212
CLIENT
Bandar Imam Petrochemical Company

DESCRIPTION
Regarding to several modification in Faravaresh Company in BIPC during past years, AIPCECO was invited by BIPC to conduct a Hazardous Area Classification Study. BIPC was formerly known as Iran-Japan Petrochemical Complex and changed the name to Bandar Imam Petrochemical Company. Bandar Imam subsidiary companies are Abniroo, Bas paran, Kharazmi, Faravaresh and Kimya.

CONTENTS
- Hazardous Area Classification study

STATUS
Commenced July 2016

CONTACTS:
Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:
Person-in-charge: Mr. Mousavion
Tel: 09166523212

208th Project
SIRAF Condensate Refinery

CLIENT
Energy Industries Engineering & Design Com. (EIED)

DESCRIPTION
The complex includes 8 × 60000 BPSD condensate refineries for producing LPG, light and heavy Naphtha, Jet Fuel and Gasoil. HAZOP Study is performed for units CDU, MDH, NHT, LPT, LPG, AMN, SWS, SRU and feed, products and middle products storage tanks.

CONTENTS
- Hazard and OPerability (HAZOP)

STATUS
Completed

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. Forouzanmehr
Mr. Hodaei
Tel: 22542090
## 207th Project: 5MWe Sabalan Geothermal Pilot Power Plant

**CLIENT**

Petro Tech Sun and Nima Consulting Eng. Co. (PTN)

**DESCRIPTION**

In the 5MWe Sabalan Geothermal Pilot Power Plant project, steam and water are produced from steam production wells. After separation, Saturated steam routed to Steam Turbine that copulated with Electrical power Generator. Separated water and condensate, inject to Re-injection well. Project consists of Production Pad, Gathering Pipeline, Power Plant and Re-injection Pad.

**CONTENTS**

- HAZOP Study

**STATUS**

Commenced July 2016

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Teymouri / Ms. Ataollahi
  - Tel: 88065502

## 206th Project: Ammonia Storage Tank of Lordegan Urea Fertilizer Company

**CLIENT**

Lordegan Urea Fertilizer Company

**DESCRIPTION**

The type of Ammonia Storage Tank of Lordegan Petrochemical is full containment and contains anhydrous Ammonia at -36°C temperature and 5 barg pressure. Also QRA study has been implemented for different scenarios of Ammonia leakage accident from the tank.

**CONTENTS**

- HAZOP
- QRA

**STATUS**

Completed May 2015

**CONTACTS:**

- Project Manager: Mr. Vahid Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Esmaeilzadeh
  - Tel: 0912127216
205<sup>TH</sup> Project

**Storage Tanks of Esfahan Oil Refinery**

**CLIENT**
Neyr Perse Company

**DESCRIPTION**
This project consists of Feed and Products Storage Tanks & Loading Facilities (Unit-50), Air Generation and Distribution Unit (Unit-42), Clarified Water Storage and Distribution Unit, Fire Water system and Cooling Tower Unit (Unit-42) for Esfahan Oil Refinery Company. These storage tanks are used for these products: Propane, Butane, Propylene, Gasoline, Gasoil, LPG, Raw Water, Fire Water and etc.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced April 2015

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**:
- Person-in-charge: Mr. H. Mashhadi Moslem
  - Tel: 23534128

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204<sup>TH</sup> Project

**Offshore/Onshore Pipelines & SBM of Kish Gas Field Development Project**

**CLIENT**
Omran Sahel Company

**DESCRIPTION**
In this project an assessment was carried-out for Subsea Pipelines and SBM at detailed design phase. Sour gas will be transmitted from Kish gas field by a 32” diameter pipeline to Kish refinery. For controlling amount of hydrates and corrosion rate, MEG will be transferred from Kish refinery to the Clusters by a 4” diameter pipeline. Finally, for transportation and exporting the liquefied products, a 24” diameter pipeline with a SBM will be used.

**CONTENTS**
- HAZOP
- HAZID

**STATUS**
Commenced in March 2016

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**:
- Person-in-charge: Mr. Dehnavi
  - Tel: 09125364034
203 TH Project

A20 & A21 Wellhead Platforms of Aboozar Oil Field Project

CLIENT
Jahanpars Engineering and Construction Company

DESCRIPTION
The Aboozar oil field is located in Persian Gulf some 75 KM to the west of Kharg Island district. This project includes two Aboozar A20 & A21 new wellhead platforms and infield pipe lines and subsea cables. The A20 platform will be installed in a location with 6200m distance from existing Aboozar AC complex. The A21 platform will be installed in a location with 2600m distance from existing Aboozar AA platform. The Aboozar field is located in a water depth of 38 meters. The SIL studies was led by Mr. Runny Poh from Malaysia.

CONTENTS
- SIL Study

STATUS
Commenced in February 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

202 TH Project

Wellhead Facilities & Flow Lines (North Side) of South Azadegan Project

CLIENT
Oil Design and Construction Company (ODCC)

DESCRIPTION
PEDEC is developing the South Azadegan oil field which is situated in Khuzestan province approximately located 80 km west of Ahwaz city, parallel to the Iran-Iraq border. It is situated northwest of the Yadavaran field and west of the Jufeyr field. The Azadegan field covers a larger total area, however only the southern part of the field with an apparent length of 43.5 km and width of 17 km will be part of this development contract.

North side Wellheads and Flow lines scope of work include 54 new production wellhead facilities which come from various reservoirs (Sarvak, Gadvan and Kazhdumi formation), completion of four existing wellhead facilities, five water disposal wellhead facilities and 66 flow lines in three different sizes (4", 6" & 8"). Project consists of 66 wells, X-mass trees and injection facilities.

CONTENTS
- HAZOP Study
- HAZID Study
- SIL Study

STATUS
Commenced March. 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Samadi
Tel: 27133037
Details of Projects

200\textsuperscript{TH} Project  Iran Oman Gas Pipeline

\textbf{CLIENT}  
Tehran Raymand Consulting Engineers Company

\textbf{DESCRIPTION}  
Construction and development of gas transportation facilities is necessary to deliver 1 BSCFD of Iranian natural gas to Oman. Gas transportation facilities consist of Compressor Station and Metering Station at Kuh-Mobarak in Iran and approximately 200 km Offshore Pipeline and fiber optic from Kuh-Mobarak to Sohar receiving facilities including land fall pipelines up to pig receiver in and associated facilities in Oman. QRA and Consequence modelling studies have been carried out for Compressor Station and Metering Station.

\textbf{CONTENTS}  
- Consequence Modeling (CM)  
- Quantitative Risk Assessment (QRA)

\textbf{STATUS}  
Completed

\textbf{CONTACTS:}  
Project Manager: Mr. V. Hashemi

\textbf{CLIENT CONTACTS:}  
Person-in-charge: Mr. Behbahani  
Tel: 09125390312

199\textsuperscript{TH} Project  LTE Splitting Unit of Noori Petrochemical Complex

\textbf{CLIENT}  
Sazeh Consultants Engineering & Construction

\textbf{DESCRIPTION}  
LTE Splitting Unit located in Borzouyeh (Noori) Petrochemical Complex has been designed to separate Heavy Hydrotreated Light Ends from Light Hydrotreated Light Ends. The unit capacity is 150,000 KG/H which is split into 45000 KG/H Heavy Ends as Splitter Bottom Product and 105 KG/H Light Ends as Splitter Top Product.

\textbf{CONTENTS}  
- HAZOP Study  
- SIL Study

\textbf{STATUS}  
Commenced January 2016

\textbf{CONTACTS:}  
Project Manager: Mr. V. Hashemi

\textbf{CLIENT CONTACTS:}  
Person-in-charge: Mr. Eshraghi  
Tel: 09123141013
## 198th Project

**First & Second Methanol Production Units of Zagros Petrochemical Complex**

### CLIENT

Zagros Petrochemical Company (ZPC)

### DESCRIPTION

Site 1 & 2 of Zagros Methanol Company have been designed and constructed for 5000 metric tons per day of pure methanol for each site at operation phase. Project consists of Methanol production consisting Reforming Section, Reaction Section and Distillation Section in addition to offsite facilities such as DM water, H2 Recovery, Storage Tanks, Gas Station and flare systems.

### CONTENTS

- HAZOP Study

### STATUS

Commenced February 2016

### CONTACTS:

**Project Manager:** Mr. R. Johari Nad

**Client Contacts:**

**Person-in-Charge:** Mr. Fallah  
**Tel:** 07737323330

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## 197th Project

**Continuous Bitumen Blowing Plant of Khorramshahr Bitumen**

### CLIENT

RAMPCO Group

### DESCRIPTION

This project is about 1480 metric tons per day Bitumen plant. Project consists of Bitumen production (Air Compressor and Bitumen Reactor) in addition to offsite facilities such as Bitumen Pit, Thermal Incinerator, Storage Tanks and Truck Top Loading Arms.

### CONTENTS

- HAZOP Study
- HAZID Study

### STATUS

Commenced December 2015

### CONTACTS:

**Project Manager:** Mr. V. Hashemi

**Client Contacts:**

**Person-in-Charge:** Mr. Kuhzaee  
**Tel:** 021-88191490
Details of Projects

196th Project
Gasoil Hydrotreating Unit (GHDS) of Tabriz Oil Refinery

CLIENT
Oil Design and Construction Company (ODCC)

DESCRIPTION
Gasoil Hydrotreating Plant located in Tabriz Refinery has been designed to produce low sulfur hydrotreated gas oil according to EURO V specifications. The unit capacity is 30,000 BPSD with on stream factor of 8400 hours per year. The unit turnaround rate is 50% of the design capacity while making on specification products. The feed of this unit is blend of diesel streams and/or blended naphtha, depending on the cases. In addition, design of an integrated Sour Gas Treating System has been carried out in order to treat sour off-gas and rich amine generated in Gasoil Hydrotreating Plant to sweeten the off-gas and recover lean amine for further usage. Project consists of Hydrodesulphurization Reactors, Stripper Towers, Compressor Units, Chemical Injection Units, amine Storage Tank and Flare system.

CONTENTS
- HAZOP Study

STATUS
Commenced January 2016

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Alizadeh Tel: 27133037

195th Project
Central Processing Facilities of Azar Oil Field Development

CLIENT
ENERCHIMI Co

DESCRIPTION
The Azar oil field is located in the Zagros foreland basin along the Iran/Iraq border, 15 Km southeast of Mehran city. Two developed oil fields near to the Azar oil field are Dehluran and Cheshmeh Kosh. Process units in the CPF can be categorized into the following items:
- Test Separation (1 Train) and Separation (2 Trains)
- Oil Desalting (2 Trains)
- Oil Stabilization (2 Trains)
- Oil Storages and export (1 Train)
- Gas gathering and Compression (2 Trains)
- Gas Dehydration (2 Trains)
- Gas Export (1 Train)

CONTENTS
- Hazard and OPerability (HAZOP)
- Quantitative Risk Assessment (QRA)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS
Project has been transmitted to Petrogas jahan in middle of engineering phase because of some reasons, and AIPCECO continued the project with this company.

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Alhang Tel: 88799771
## Details of Projects

### 194<sup>th</sup> Project
**Development of Training System Based on PSM Approach for BIPC Plant**

#### CLIENT
Bandar Imam Petrochemical Complex (BIPC)

#### DESCRIPTION
In reference to implementation of Process Safety Management System in BIPC, and while Workforce Training and Competency Provision is one of the element of PSM, 100 critical jobs were selected based on criteria as previous accident records, Job Hazard Analysis and experts' opinion. Then regarding their technical demand and nature of hazards and responsibilities, the training framework for each job, as well as training syllabus and training matrix were developed.

#### CONTENTS
- Training System Based on PSM Approach
- JSA/JHA

#### STATUS
Commenced December 2015

#### CONTACTS:
- **Project Manager:** Ms. S. Khosroshahi
- **Person-in-charge:** Mr. Mousavion
  - **Tel:** 065-52254495

### 193<sup>th</sup> Project
**Ammonia & Urea Units of Masjed Soleyman Petrochemical (MIS) Plant**

#### CLIENT
Petrochemical Industries Design and Engineering Company (PIDEC)

#### DESCRIPTION
The Ammonia plant is designed to produce 2050 metric tons per day of ammonia (as 100 %w). The produced liquid ammonia is delivered at ammonia plant B.L. at two different conditions, namely:
- a) Liquid ammonia to urea plant (76650 kg/h as 100 %w) at 20 bar g and 26°C
- b) Liquid ammonia to storage (8767 as 100 %w) at 6 bar g and -35.1°C

The plant is also designed to produce all 2050 MTPD as cold liquid ammonia at 6 barg and -35.1°C when urea plant is down. This ammonia goes to the cryogenic storage tank. The design is the CASALE front end technology using axial-radial HTS and LTS converters, MDEA System for the CO2 removal, CASALE patented ammonia wash, and CASALE patented 3-stage converter with 2 interchangers for ammonia synthesis loop.

The Urea Plant is designed to produce 3,250 MTPD granulated urea of specified quality in a single train based on the raw materials, ammonia and carbon dioxide, to be fed from Ammonia Plant. The Urea Plant consists of the following sections,
- Ammonia and CO2 Compression Section, Synthesis Section, Purification Section, Concentration Section, Recovery Section, Process Condensate Treatment Section, Granulation Section

#### CONTENTS
- HAZOP Study
- SIL Study

#### STATUS
Commenced November 2015

#### CONTACTS:
- **Project Manager:** Mr. R. Johari Nad
- **Person-in-charge:** Mr. Ghodsi
  - **Tel:** 0711-2273133-40

---

Head Office: Unit 3, No. 290, Zafar Ave., between Modarres highway & Africa Blvd., Tehran, Iran.
Tel/Fax: +9821-88871504, 527, 531 and 547

www.AIPCECO.com
### 192th Project: Flare Package of Marjan Petrochemical Complex

**CLIENT**
Kimiagran Sanat Pars

**DESCRIPTION**
The purpose of constructing this Flare Package is to burning of maximum 510,000 Nm3/hr flaring gas in emergency cases of Marjan Petrochemical Complex.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced October 2015

**CONTACTS:**
- Project Manager: Mr. R. Johari Nad

**CLIENT CONTACTS:**
- Person-in-charge: Mr. Edraki
- Tel: 07132299729

### 191th Project: Pipelines related to Karun-Ahwaz Corridor for both Existing and Renovation Conditions

**CLIENT**
Tarhandishan Consulting Engineers Company

**DESCRIPTION**
According to extremely high volume of hydrocarbon transfer, the main factor income our country and the need to ensure continuity in production and distribution of oil and gas; it is necessary to study, implementation of immunization and improvement of situation in Ahvaz corridor, also feasibility study shall be considered for replacement the corridor out of the metropolitan area. National Iranian South Oil Company, a project under the title "A review of the safety study and improvement of the existing pipeline corridor Ahvaz Karoon" is defined. National South Oil Company to immunization and improve the status of existing pipeline corridor Ahvaz-Karoon, QRA study is considered to continue productivity, prediction and prevention of accidents on people around the corridor.

**CONTENTS**
- Quantitative Risk Assessment (QRA)
- Consequence Modelling (CM)

**STATUS**
Completed

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- Technical Manager: Mr. J. Ghasemi

**CLIENT CONTACTS:**
- Person-in-charge: Mr. R. Abbasian
- Tel: 09122498176
## 190th Project

**CLIENT**
Sazeh Pardazi Iran Company

**DESCRIPTION**
Feed and Products Transmission Pipelines Corridor, Storage Tanks & Loading/Unloading Facilities for Mokran Petrochemical Complex were studied in this project. These transfer lines and storage tank are used for the following products: Benzene, Ammonia, Ethylene, Propylene, Heavy Ends, Gas condensate, Butene-1, Butadiene 1-3, MEG, DEG, P-Xylene and O-Xylene and Natural Gas.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)

**STATUS**
Commenced August 2015

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

## CLIENT CONTACTS:
- Person-in-charge: Mr. Seyyed
- Tel: 88338353

## 189th Project

**CLIENT**
Kimia Petrochemical Complex-BIPC

**DESCRIPTION**
Regarding to poor fireproofing or no fireproofing of Kimia Petrochemical, BIPC called AIPCECO to conduct a Fireproofing Study. In this project, all structures were reviewed against any deflection of fireproofing materials.

**CONTENTS**
- Engineering Studies of Fireproofing

**STATUS**
Commenced 22 June 2015

**CONTACTS**:
- Project Manager: Mr. J. Ghasemi

## CLIENT CONTACTS:
- Person-in-charge: Mr. Mousavion
- Tel: 065-52254495
### 188th Project

**VC Unit in Kimia Petrochemical Complex of BIPC**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Kimia Petrochemical Complex-BIPC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Blast study was performed for BIPC (Bandar Imam Petrochemical Complex) by AIPCECO. In this project, a quantitative risk assessment study was carried out to determine control room building vulnerability by vapor cloud explosion, toxic material release and fires. After risk assessment, appropriate recommendations reported to decrease the effect of each consequence. Control room located in VC unit of BIPC.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTENTS</th>
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<tbody>
<tr>
<td>• Blast Study for VC Plant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATUS</th>
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<tbody>
<tr>
<td>Project Manager: Mr. J. Ghasemi</td>
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<tr>
<th>CLIENT CONTACTS:</th>
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<tbody>
<tr>
<td>Person-in-charge: Mr. Moosavion Tel: 09166523212</td>
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</tbody>
</table>

### 187th Project

**Ammonia Unit and Offsite Facilities of Lavan Petrochemical Complex**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Hampa Energy Engineering &amp; Design Company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Lavan Ammonia plant with capacity of 2050 ton per day consists of the following process sections: Feed gas desulfurization, Primary reforming, Air compression, Secondary reforming, High and low temperature shift conversion, Carbon Dioxide removal, Methanation, Syngas compression and drying, Ammonia synthesis, Ammonia condensation and separation, Ammonia and hydrogen recovery section, Process condensate stripping, Steam system, Cooling water system. The design is using axial-radial HTS and LTS converters, MDEA System for the CO2 removal, ammonia wash, and 3-stages converter with 2 interchangers for ammonia synthesis loop. The ammonia plant is a single train plant. All the major compressors and pumps are driven by steam turbines.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>CONTENTS</th>
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<tbody>
<tr>
<td>• HAZard and OPerability (HAZOP)</td>
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<tr>
<td>• Safety Integrity Level (SIL)</td>
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<table>
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<tr>
<th>STATUS</th>
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<tbody>
<tr>
<td>Project Manager: Mr. R. Johari Nad</td>
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<tr>
<th>CLIENT CONTACTS:</th>
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<tbody>
<tr>
<td>Person-in-charge: Mr. Pourzarabi Tel: 07132136431</td>
</tr>
</tbody>
</table>
Details of Projects

186 TH Project  Wellhead Facilities & Flow lines of Azar Oil Field Development

CLIENT
Iran Gas & Water Development Company

DESCRIPTION
Wellhead facilities and flow lines of AZAR Oil Field were assessed in this project. The Project consists of 17 wellheads and relevant flow lines, chemical packages for each wellheads, and pig launcher and pig receiver.

CONTENTS
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

STATUS
Commenced August 2015

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Sharifi (Project Manager)  Tel: 88801716

185 TH Project  Wellhead Control Panel (WHCP) of Azar Oil Field Development

CLIENT
Kardanan Shargh Company

DESCRIPTION
Wellhead Control Panel (WHCP) is a sensitive part of wellhead facilities. Wellhead Control Panels (WHCP) consist of Main Oil Reservoir, SSSV, SSV, Fusible Plug and other relevant parts. In this project, this combination was studied for major hazardous and operational issues.

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced June 2015

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Behboodi (Project Manager)  Tel: 88622037
184th Project

Urea Unit and Offsite Facilities of Hormoz Petrochemical Complex Fertilizer

CLIENT
Petrochemical Industries Design and Engineering Company (PIDEC)

DESCRIPTION
A new 3250 MTPD Urea project at basic engineering phase were assessed in this project. Plant consists of Urea unit in addition to offsite facilities including Ammonia Storage, DM water and flare systems.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)

STATUS
Commenced June 2015

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. Ghodsi
Tel: 07132112345

183th Project

Oil & Gas Transfer pipelines of North Yaran Oil Field Development

CLIENT
Tehran Jonoob Technical & Construction Company

DESCRIPTION
In this project crude oil and compressed gas will be exported via separate buried pipelines to the West Karoun production unit and NGL-3200 respectively.

CONTENTS
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

STATUS
Commenced June 2015

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Shokri (Project Manager)
Tel: 88065494
### 182TH Project

**NF3 Plant in Faravarest Petrochemical of BIPC**

**CLIENT**
Faravarest Petrochemical Company-BIPC

**DESCRIPTION**
NGL Feed is supplied by capacity of 100000 Std. Bbl/Day from several NGL units such as NGL-3200 and finally produce Methane, Ethane, Propane, Butane, Pentane and Hexane+. Pentane will be stored and Methane is used in HP Fuel Gas System, and other products will be sent to consumers. Project consists of Fractionation columns and related faculties, Ethane and Propane Refrigeration System, in addition to offsite facilities such as Steam Generation, Chemical Injection and Cooling Water system and flare systems.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced June 2015

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Jamshidnezhad

**CLIENT CONTACTS**:
- Tel: 06152253335

### 181TH Project

**Cluster Section of North Yaran Oil Field Development**

**CLIENT**
Jondishapour Company

**DESCRIPTION**
North Yaran Oil Field Development Project consists of 20 wellheads, Cluster, Oil Separation and Pumping facilities to West Karoun and Gas Treatment and transferring to NGL-3200.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

**STATUS**
Commenced May 2015

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Torabi (Project Manager)

**CLIENT CONTACTS**:
- Tel: 26414068
180th Project  Cluster Facilities of Kish Gas Field Development

CLIENT
Maroon Karan Company

DESCRIPTION
This project includes wellhead facilities (clusters), underground and subsea pipelines and Gas Plant for the processing of the reservoir fluid. The Gas Plant will be located on the Persian Gulf sea shore in the HORMOZGAN province, between GORZEH and KALAT villages. The total capacity of Gas Plant is 1000 MMSCFD of reservoir fluid. It will include all processing units, utilities, off-sites and infrastructure necessary to produce sales gas and stabilized condensate.

CONTENTS
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

STATUS
Commenced May 2015

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Ms. N. Amirghasemi  Tel: 22060938-22060946

179th Project  Ammonia Unit of Hormoz Petrochemical Complex

CLIENT
Petrochemical Industries Design and Engineering Company (PIDEC)

DESCRIPTION
Hormoz Ammonia plant with capacity of 2050 ton per day consists of the following process sections: Feed gas desulfurization, Primary reforming, Air compression, Secondary reforming, High and low temperature shift conversion, Carbon Dioxide removal, Methanation, Syngas compression and drying, Ammonia synthesis, Ammonia condensation and separation, Ammonia and hydrogen recovery section, Process condensate stripping, Steam system, Cooling water system.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)

STATUS
Commenced May 2015

CONTACTS:
Project Manager: Mr. V. Hashemi
Technical Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. Ghodsi (Project Manager)  Tel: 07132112345
### Details of Projects

#### 178TH Project

**Spent Caustic Pre-treatment of Olefin Unit of Bandar Imam Petrochemical Company**

**CLIENT**

Fan Atlas Nopa Company

**DESCRIPTION**

In this project, spent caustic is received from olefin plant of Bandar Imam Petrochemical and preliminary separation is takes place in “Spent Caustic/PY Gas Separator” then after stripping in “Spent Caustic Stripper” by fuel gas, product is sent to downstream via 6.5 m³/hr pumps.

**CONTENTS**

- Hazard and Operability (HAZOP)

**STATUS**

Commenced April 2015

**CONTACTS:**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>Mr. V. Hashemi</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge</td>
<td>Mr. Alizadeh</td>
<td>06152252696</td>
</tr>
</tbody>
</table>

#### 177TH Project

**Process, Utility, Interconnecting Units and Pipeline of NGL3200**

**CLIENT**

SADAF Company

**DESCRIPTION**

The purpose of constructing NGL-3200 factory is to receive 500 MMSCFD Sour Gas from ARVANDAN oil field in two trains (250 MMSCFD in each train) in South West of Ahvaz and process it to produce the products C2+, Lean Gas and Sulfur. This project includes whole Process, Utility and Interconnecting Units, also Packages and Pipelines (Units-100, 150, 300, 400, 450, 460, 500, 700 & 900).

**CONTENTS**

- Hazard and Operability (HAZOP)
- Hazard IDentification (HAZID)
- Safety Integrity Level (SIL)
- Reliability, Availability, Maintainability (RAM)
- Noise Study

**STATUS**

Commenced July 2015

**CONTACTS:**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>Mr. V. Hashemi</td>
<td></td>
</tr>
<tr>
<td>Person-in-charge</td>
<td>Mr. Jazayeri</td>
<td>22982970</td>
</tr>
</tbody>
</table>
### Details of Projects

#### 176th Project
**Azar Oil Field Development**

**CLIENT**
Enerchimi Engineering Company

**DESCRIPTION**
Operating capacity of the Azar CPF is 30000 BOPD in early production stage and 65000 BOPD in final production stage.

**CONTENTS**
- Noise Study

**STATUS**
Commenced April 2015

**CONTACTS:**
- **Project Manager:** Mr. V. Hashemi

#### 175th Project
**Dorood D22 Wellhead Platform**

**CLIENT**
Saff RoseMond Engineering & Management Company

**DESCRIPTION**
The Scope of Work covers provision of one wellhead platform (D22), three subsea and onshore pipelines and two subsea and onshore cables. The Dorood wellhead platform is located near the Kharg Island (3500 m distance). Centre of the field is about 6 km south-east of the Kharg Island and, 50 km north-east of the port of Bushehr, 45 km northwest of the port of Genaveh. The dimension of the Dorood field is about 25 km in length and 5 km in width. The field was discovered by drilling of well in 1960. D22 jacket is installed in the water with the depth of 48 m. The studies were performed by Mr. Runny Poh from Malaysia.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

**STATUS**
Completed May 2015

**CONTACTS:**
- **Project Manager:** Dr. F. Nouraei

**CLIENT CONTACTS:**
- **Person-in-charge:** Mr. I. Mussareza  
  **Tel:** 88375040
174TH Project  

**North Yaran Oil Field Development**

**CLIENT**  
Jondishapour Company

**DESCRIPTION**  
The project is under supervision of Petroleum Engineering and Development Company (PEDEC) and PERSIA Oil & Gas Industry Development Company (POGID). Yaran oil field composed of Yaran north field is located in the Abadan plain area as far as 120 kilometers to the west of Ahwaz and right along the international border with Iraq.

**CONTENTS**  
- Quantitative Risk Assessment (QRA)  
- Consequence Modeling (CM)  
- Blast Study  
- Reliability, Availability, Maintainability (RAM)

**STATUS**  
Commenced March 2015

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Mohajer (Engineering Manager)  
Tel: 09123054289

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173TH Project  

**Polypropylene Truck Unloading Facilities of Jam Petrochemical Company**

**CLIENT**  
Pars Geometry Consultant Engineers Company

**DESCRIPTION**  
Plant under study consists of following sections:  
- Polypropylene Truck Unloading  
- Purification Package

**CONTENTS**  
- HAZard and OPerability (HAZOP)  
- HAZard IDentification (HAZID)

**STATUS**  
Commenced February 2015

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. H. Shirvani (Project Manager)  
Tel: 88337455
**172 TH Project**  
**C3/C4 Refrigeration, Storage and Ship Loading of Bandar Abbas Persian Gulf Star Gas Condensate Refinery**

**CLIENT**  
Shanul Farayand Company

**DESCRIPTION**  
Project consists of checking the design of C3/C4 Refrigeration, Storage and Loading Facilities at basic design phase. The produced Propane and Butane from Propane/Butane Splitter Units 05/55 and Propane/Butane stored in spherical tanks of unit 30 are exported to overseas market via Propane/Butane carrier ships. Therefore, C3/C4 products cooled down in the Propane/Butane Refrigeration Unit are rundown to the associated refrigerated tanks and stored at atmospheric pressure. Storage tanks are double-wall full containment above ground type. The two Propane tanks have a working capacity: 18,330 m3 each, including margin. The two Butane tanks have a working capacity: 58,058 m3 each, including margin.

**CONTENTS**  
- HAZard and OPerability (HAZOP)  
- Safety Integrity Level (SIL)

**STATUS**  
Commenced March 2015

**CONTACTS:**  
- Project Manager: Mr. V. Hashemi  
- Technical Manager: Mr. R. Johari Nad

**CLIENT CONTACTS:**  
- Person-in-charge: Mr. Bani-Hashemian  
- Tel: 88581200

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**171 TH Project**  
**Planning & Establishment of Citizenship HSE Management & Inspection & monitoring of Performance of Responsible Units in the 22 regions of Tehran Municipality**

**CLIENT**  
Tehran Municipality

**DESCRIPTION**  
This project has been defined for establishment of HSE management system in transportation, traffic and guild unions located in the regions of 2, 3, 5, 9, 21, 22 of Tehran municipality

**CONTENTS**  
- Designing and establishment of HSE Management System

**STATUS**  
Commenced January 2015

**CONTACTS:**  
- Project Manager: Dr. D. Rashtchian  
- Technical manager: Mr. S. Khosroshahi

**CLIENT CONTACTS:**  
- Person-in-charge: Dr. Ghaffari  
- Tel: 22506515
### 170th Project

**Compensate for the Effects of Chamshir Dam Construction Project**

**CLIENT**
Tarhandishan Consulting Engineers Company

**DESCRIPTION**
Chamshir dam construction project (Under a part of preliminary engineering studies and provide Compensate for the effects of Chamshir dam construction project) at design basic phase has been appointed for safety studies. The project is under supervision of National Iranian South Oilfields Company (NISOC).

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Quantitative Risk Assessment (QRA)
- Emergency Response Planning (ERP)

**STATUS**
Commenced February 2015

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. R. Abbasian
- Tel: 88824370

### 169th Project

**for Basparan Petrochemical Company**

**CLIENT**
Bandar Imam Petrochemical Complex-Basparan

**DESCRIPTION**
AIPCECO was invited by Bandar Imam Petrochemical Complex to conduct a Fireproofing Study. In this project, semi qualitative risk method was carried out to determine equipment and structure that must be fireproofed. At end of this project, requirement thickness and appropriate material was selected and introduced to client to implement fireproofing.

**CONTENTS**
- Engineering Studies of Fireproofing

**STATUS**
Commenced January 2015

**CONTACTS**:
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. Sh. Ghasemi
- Tel: 09131841757
# Details of Projects

## 168th Project

**Mercaptans Odor Tolerability Analysis in Odorant Production Plant**

**CLIENT**

Jahan Pars Company

**DESCRIPTION**

A Mercaptans Odor Tolerance Analysis Using Consequence Modeling were performed in this project. The project is under supervision of Iranian Gas Engineering and Development Company (IGEDC) and the plant is to be installed as part of the existing South Pars Gas Field Development Phase 1 gas processing complex at Assaluyeh. The license of the process is authorized by Research Institute of Petroleum Industry (RIPI).

**CONTENTS**

- Consequence Modeling (CM)

**STATUS**

Commenced March 2015

**CONTACTS:**

- Project Manager: Dr. F. Nouraei
- Technical Manager: Mr. J. Ghasemi

**CLIENT CONTACTS:**

- Person-in-charge: Ms. Heydari (Project Manager)  
  Tel: 27624539

## 167th Project

**Gas Sweetening and Sulfur Recovery Units of NGL 3200 Plant**

**CLIENT**

Tehran Raymand Consulting Engineers Company

**DESCRIPTION**

The purpose of constructing this plant is to sweetening and sulfur recovery of 500 million standard cubic feet per day received sour gas from West Karoun Oilfield. The location of plant is South West of Ahwaz, at the west side of Karun River. Gas Sweetening (Unit 200) includes GSU and Regeneration of Amine sections and Sulfur Recovery (Unit 600) includes AGEU, SRU, TGTU and Incinerator sections.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- Reliability, Availability, Maintainability (RAM)

**STATUS**

Commenced December 2014

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mrs. Sarkari / Mr. Ahmadpour / Mr. Aghaei (Project Manager)  
  Tel: 88729740 (470 – 436 - 405)
166 TH Project  NGL 3100 Plant

CLIENT
Energy Industries Engineering & Design (EIED)

DESCRIPTION
The purpose of designing NGL Plant (NGL-3100) is for optimum recovery of C2+. Plant will be located at Cheshmehkhosh area. The plant will include all feed and product pipelines and processing units, utilities, off sites consisting: Feed and product pipelines, Inlet feed facilities for separation of raw gas and condensate/water mixture, Inlet gas compression, Condensate stabilization producing stabilized condensate, Gas treatment facilities (consisting of Gas sweetening, Gas dehydration, Mercury guard), NGL extraction unit producing C2+ liquids, Residue gas compression, Acid gas compression and dehydration unit, Utilities, off sites required for operation.

CONTENTS
- HAZard IDentification (HAZID)

STATUS
Completed September 2014

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. A. Abbas Noori (Project Manager) Tel: 22565040

165 TH Project  Sirri Island Comprehensive Fire Protection and F&G Systems Design

CLIENT
RAMPCO Group Engineering, Construction & Maintenance

DESCRIPTION
AIPCECO performed as an outsourced team by the EPC contractor Rampco in order to undertake process, safety and F&G design and document preparation (in total about 134 items) for the so-called Comprehensive F&G Project of Sirri Island.

CONTENTS
- Process Engineering
- Safety and Fire Protection Engineering
- F&G and Instrument Engineering

STATUS
Commenced December 2014

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. A. Esfandi/Dr. A. Soori (Project Managers) Tel: 27624373
## Details of Projects

### 164th Project
**All Wellhead and Gas Gathering Facilities of East Oil & Gas Company**

**CLIENT**
East Oil & Gas Co (ICOFC)

**DESCRIPTION**
Scope of EOGPC facilities in this project was Mozduran wellheads (sour), Shurijeh and Gonbadli wellheads (sweet), gathering centers, metering center and pipelines. EOGPC is the most important gas producer in north-east of Iran.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)
- Fireproofing
- Consequence Modeling (CM)
- Blast Study
- Safety Engineering

**STATUS**
Commenced September 2014

**CONTACTS**
- Project Manager: Mr. S. Khoshbazm
- Person-in-charge: Mr. T. Alipour ((Project Manager))

### 163th Project
**PLINK Unit of Karoun Petrochemical Company**

**CLIENT**
Karoun Petrochemical Company

**DESCRIPTION**
Regarding high potential of hazards in this plant and some previous incidents, this project was defined to identify the weak-points of the plant and checking suitable solutions for improving the safety of the plant. This plant consists of 4 basic steps including 1-Treatment and Stripping, 2-Sulfuric Acid Concentration, 3-Nitric Acid Pre-concentration and 4-Absorption of Nitric Oxides which each step has several facilities.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced February 2015

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Kiani

**CLIENT CONTACTS**
Tel: 06152122686
Details of Projects

162 TH Project

MEK4 Unit of Behran Oil Company

CLIENT
Behran Oil Company

DESCRIPTION
M.E.K.4 project of Behran Oil Company is a development of existing facilities of the factory. Since most of this refinery’s required raw material called “Lub-Cut” is provided by Tehran Refinery (N.I.O.C) and given the fact that these two refineries are built next to each other, to reduce the cost of raw material, direct Lub-Cut transfer by pipeline has been ready for operation since 1989. Mostly transferred to the refinery through pipelines, “Lubcut” is stored in storage tanks, then in furfural units, aromatic compounds are separated by using furfural solvent. The product of this unit called Rafinat is transferred to M.E.K. unit. In M.E.K. unit, paraffin wax is separated from Rafinit through cooling and filtration processes and by using M.E.K. and Toluen solvents.

CONTENTS
- HAZard and OPerability (HAZOP)
- HA锌ard IDentification (HAZID)
- Quantitative Risk Assessment (QRA)
- Firefighting Design

STATUS
Commenced: July 2014

CONTACTS:
Project Manager: Ms. M. Keyhanizadeh

CLIENT CONTACTS:
Person-in-charge: Mr. Hajian
Tel: 55209141

161 TH Project

Offsite and Utility Facilities of Sahand Khalij-e Fars Bitumen Production Plant

CLIENT
Sahand Khalij-e Fars Company

DESCRIPTION
The Plant is designed to fulfill the capacity of 300,000 ton per year. Vacuum Residue (VR) and Heavy Vacuum Slops (VS) are the main feeds of plant that transferred to the site using tankers from Bandar Abbas Oil Refinery. List of Process and utility units are as following: Unit 20 – Feed and Product Banking / Unit 22 – Water Treatment and Steam / Unit 22 – HSE-Fire Water / Unit 23 – Fuel and Flushing Unit / Unit 24 – Instrument & Plant Air Unit / Unit 45 – Interconnecting Unit

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced July 2014

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Hadi Fani Salek
Tel: 09387529565
160<sup>th</sup> Project  Oxygen Transfer Pipeline between Mobin & Morvarid Petrochemical Complexes

**CLIENT**

Petrochemical Industries Design & Engineers Co. (PIDEC)

**DESCRIPTION**

PIDEC is responsible for constructing pipeline for transferring oxygen from Mobin Petrochemical to Morvarid Petrochemical. In this Project, oxygen is received from ASU1 and ASU2 in MP and HP Pressures and is sent to Morvarid plant for consuming in process units. Representatives from NPC, Mobin Petrochemical, Damavand Petrochemical, Morvarid Petrochemical, Sazeh, Namvaran Delvar and PIDEC were attended in meetings.

**CONTENTS**

- HAZard and OPerability (HAZOP)

**STATUS**

Commenced June 2014

**CONTACTS:**

Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

Person-in-charge: Mr. Ghodsi (Project Manager)

Tel: 07132112645

159<sup>th</sup> Project  Offsite Facilities of Kermanshah Polymer Company

**CLIENT**

Kermanshah Polymer Company

**DESCRIPTION**

In this project, HAZOP Study was performed for Plant Air and Instrument Air Production unit, Ethylene Gas Station unit, Fire Fighting Pumps and Tanks, Gas Oil and Fuel Gas System, Flare unit, Propylene and 1-Butene Loading & Unloading and Storage unit and also Fehlmann Wells in Kermanshah Polymer Company. This plant has been constructed for 300k ton per year HDPE.

**CONTENTS**

- HAZard and OPerability (HAZOP)

**STATUS**

Commenced: August 2014

**CONTACTS:**

Project Manager: Mr. R. Johari Nad

**CLIENT CONTACTS:**

Person-in-charge: Mr. Heydari (Project Manager)

Tel: 09183874741
**Details of Projects**

158\textsuperscript{th} Project

**Four Packages Related to Ammonia and Urea Unit No. III of Pardis Petrochemical Complex**

**CLIENT**
Pardis Petrochemical Company

**DESCRIPTION**
In this project, HAZOP Study will perform for RO Package, Boiler Package and Air compressor, CO\textsubscript{2}, Refrigerant, synthesis compressor packages on Urea/Ammonia Units of Pardis Petrochemical Company. HAZOP Study for each package has been performed separately. Vendor of each package are as below:
- RO/DM Water Package Vendor: PENDER Company
- Auxiliary Boiler Package: HANIL Company from South Korea
- Air Compressor Package: NEWJCM Company from China
- Synthesis Compressor Package: NEWJCM Company from China
- Refrigerant Compressor Package: NEWJCM Company from China
- CO\textsubscript{2} Compressor Package: NEWJCM Company from China

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced May 2014

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Sa’adati (Project Manager)  Tel: 09126968360

156\textsuperscript{th} Project

**Phase 12 Interconnecting Pipeline to C2+ Recovery Unit**

**CLIENT**
Nargan Engineers & Constructors Company

**DESCRIPTION**
In this project, natural gas at a pressure of 60 bars from 6 parallel trains is received by three 30” pipelines and integrated into a 52” line which is directed to C2+ recovery, then returns back to unit 106 inlet for transport via IGAT.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced February 2014

**CONTACTS:**
- Project Manager: Mr. R. Johari Nad
- Person-in-charge: Mr. Mohseni (Project Manager)  Tel: 09122597981
### 155TH Project

**NGL-3100 Pipelines**

**CLIENT**  
Energy Industries Engineering & Design (EIED)

**DESCRIPTION**  
A total of 11 pipelines related to NGL-3100 plant at Cheshmeh Khosh in western Iran were studied in this project.

**CONTENTS**  
- HAZard and OPerability (HAZOP)  
- HAZard IDentification (HAZID)  
- Quantitative Risk Assessment (QRA)

**STATUS**  
Commenced April 2014

**CONTACTS:**  
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. A. Abbas Noori  
  Tel: 22565040

### 154TH Project

**Risk Assessment and Lifecycle Analysis of Safety Instrumented System (SIS) of Parsian Gas Processing Company**

**CLIENT**  
Parsian Gas Processing Company

**DESCRIPTION**  
IEC 61511 requirements were assessed and verified in Parsian Gas Plant, a 2900 MMSCFD refinery in Assaluyeh. This was the first SIL determination + verification project over the lifecycle ever performed in Iran. A total of over 300 safety instrumented functions (SIF) were identified and a comprehensive risk assessment undertaken for them leading to determination of their target SIL levels using Calibrated Risk Graph technique. Then, functional safety verification was undertaken for all 7 major lifecycle stages according to IEC. In each step, the available documentation were thoroughly reviewed and verified against IEC requirements. In each stage, recommendations and documentation were presented to address shortcomings.

**CONTENTS**  
- SIL Determination Study  
- SIL Verification Study

**STATUS**  
Commenced February 2014

**CONTACTS:**  
- Project Manager: Dr. F. Nouraei  
- Person-in-charge: Mr. Sh. Abdali (Managing Director), Mr. J. Sohrabtash (Project Supervisor)  
  Tel: 07825112321
### 153th Project: North Yaran Oil Field Development

**CLIENT**
Enerchimi Engineering Company

**DESCRIPTION**
North Yaran Oil Field Development Project consists of 20 wellheads, Cluster, Oil Separation and Pumping facilities to West Karoun and Gas Treatment and transferring to NGL-3200.

**CONTENTS**
- Hazard and Operability (HAZOP)
- Hazard Identification (HAZID)
- Quantitative Risk Assessment (QRA)
- Safety Integrity Level (SIL)
- Consequence Modeling (CM)
- Reliability, Availability, Maintainability (RAM)

**STATUS**
Commenced: February 2014

**CONTACTS**
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. Hashemi (Project Manager) Tel: 09123147336

### 152th Project: Arya Sasol Polymer Company

**CLIENT**
Arya Sasol Polymer Company

**DESCRIPTION**
Arya Sasol Polymer Company is the producer of polymer products in Pars Special Economic & Energy Zone (PSEEZ) in (ASSALOYEH) Bushehr Province. The plant is constructed on 72 hectares of land on the Persian Gulf 270 km. southeast of port of Bushehr and 270 km west of Bandar Abbas in the western corner of Petrochemical Phase 1 area next to export facilities of PSEEZ. Also at the moment Company utilizes 943 direct employees and around 1500 indirect through contractors.

The project consists of the following units:
- Production of Ethylene through construction & commissioning of C2 Cracker unit
- Production of Low Density Polyethylene (LDPE)
- Production of Medium & High Density Polyethylene (MD & HDPE)
- Off Site facilities

**CONTENTS**
- Job Hazard Analysis (JHA)

**STATUS**
Commenced January 2014

**CONTACTS**
- Project Manager: Ms. M. Ranjbar
- Person-in-charge: Mr. Amjadi (Head of Safety department) Tel: 021-85921202
### 150TH Project

**South Pars Phase 1 Flare Relocation Project**

**CLIENT**

Oil Design and Construction Company (ODCC)

**DESCRIPTION**

After 10 years operation of in-site Flares of South Parse Phase 1, SPGC decided to relocate two in-site HP/LP flares to outside of plant BL and also to establish new Burn Pit. In this revamping project, technical team from POGC, SPGC, and ODCC tried to find any potential hazard and operational problems by using HAZOP Methodology. This is second time that AIPCECO held this Study for this project.

**CONTENTS**

- HAZard and OPerability (HAZOP)

**STATUS**

Commenced May 2014

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Emamzadeh & Mr. Yazdi
  - Tel: 88550266-7 (161)

### 149TH Project

**HDPE Unit of BIPC Basparan**

**CLIENT**

Bandar Imam Petrochemical Company (BIPC)

**DESCRIPTION**

HDPE Unit of BIPC produce 150000 tone/year using PZ catalyst. This unit is one of HDPE producer units using solvent (Hexane) and is under MITSUI license.

**CONTENTS**

- HAZard and OPerability (HAZOP)

**STATUS**

Commenced April 2014

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Jafari
  - Tel: 0652-2555414
148th Project

Kermanshah Polymer Complex Hydrogen Unit

CLIENT
Kermanshah Polymer Company

DESCRIPTION
700Nm³/hr Hydrogen with purity of 99/99% is produced based on Natural Gas and Steam Reforming and purifying by PSA unit

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced December 2013

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Heydari (Head of HSE) Tel: 0832-3354031

147th Project

Bandar Abbas Gas Condensate Refinery Power Plant

CLIENT
FARAB Energy & Water Projects

DESCRIPTION
In This Project, HAZOP Study was performed for steam and power generation Plant of Persian Gulf Condensate Refinery. This Plant consist of:
- 7 gas Turbine Generators (GTG), 45 MW capacity each
- 7 Heat Recovery Steam Generators (supplementary fired) approximately 100 t/h capacity each (Azarab is vendor)
- 3 (two operating + one standby) utility boilers each 275 t/h capacity (Azarab is vendor)
- 2 Extraction type Steam turbine Generators each 40 t/h capacity (HTC is vendor)

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced October 2013

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Arash Salimi Tel: 81292895
Details of Projects

146<sup>TH</sup> Project  
Kharg NGL Water Intake

**CLIENT**  
Omran Falat Company

**DESCRIPTION**  
Sea Water Intake consists of “sea water intake”, “sea water screening”, “lift pumps”, “surge vessels”, “injection packages”, “fire fighting pumps” (to use sea water for jetty fire fighting purpose in addition of fire fighting back-up of NGL plant) and some potable water, Instrument air, Gasoil, etc. utility networks.

**CONTENTS**  
- HAZard and OPerability (HAZOP)

**STATUS**  
Commenced September 2013

**CONTACTS**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**  
Person-in-charge: Mr. Behzadan (Project Manager)

---

145<sup>TH</sup> Project  
South Pars Phases 20&21

**CLIENT**  
OIEC (Oil Industry Engineering and Construction)

**DESCRIPTION**  
19 Packages of South Pars Phases 20&21 are included in this project as follows:
- Amine Filtration Package- Vendor: DrM- Switzerland
- Nitrogen Package- Vendor: CRYOTEC-Germany
- Sea Water Desalination Package- Vendor: FARAZARAB-Iran
- Sulphur Solidification Package- Vendor: ZAFARAN-Iran
- Cooling Water Package- Vendor: WINTER-UAE
- Waste Effluents Disposal Package- Vendor: MOJAN-Iran
- Instrument Air Compressor Package- Vendor: Samsung-South Korea and Havayar-Iran
- Dryer Regeneration & Ethane Regeneration Gas Compressors Packages (2 Set)- Vendor: BORSIG-Germany
- 3 Set Process Compressor Packages- Vendor: SBW-China
- and HAZOP Review of SRU, Flares and Wet Liquid Burner

**CONTENTS**  
- HAZard and OPerability (HAZOP)

**STATUS**  
Commenced September 2013

**CONTACTS**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**  
Person-in-charge: Mr. Momen  
Tel: 23054618
Details of Projects

144 TH Project  Process Units of Parsian Gas Refining Company

CLIENT
Parsian Gas Refining Company

DESCRIPTION
Parsian Gas Refinery Company is considered for refining the gas from Tabnak, Shanul, Varavi and Homa Gas fields. The capacity of Tabnak field is 44 million of cubic meter per day. The gas is transferred through two 28 km length, 30 inches pipelines to Parsian Gas Refinery. The transferred gas refining is performed in units 400,500 and 800 which are called “Parsian 1”.

The capacities of Varavi, Shanul and Homa gas fields are 8, 11.8 and 19.7 million of cubic meter per day respectively. The gas from Varavi field is transferred through 12 km length, 16 inch pipeline to Parsian Gas Refinery. Gas and liquid from Shanul and Homa fields, after primary separation, are transferred through 56 km distance by 36 inch pipeline from Shanul and 6 inch pipeline from Homa to Parsian Gas refinery.

CONTENTS
- Consequence Modeling
- Blast Study and Fireproofing

STATUS
Commenced September 2013

CONTACTS
Project Manager: Dr. D. Rashtchian

CLIENT CONTACTS
Person-in-charge: Mr. A. Ezoji
Tel: 07825112177-78

143 TH Project  Jurassic Gas Condensate Gathering & Stabilization of Masjed-i-Soleyman

CLIENT
NISOC/ Tarhandishan Consulting Engineers

DESCRIPTION
The gas condensate collects from 6 well head after separation in two stages Separation will be sent to stabilization unit. Then the condensate product which has been sweetened up to H2S< 80 ppmw by sweet natural gas will be transferred to stripper outlet of BEIE MOTEGHABEL production unit. The separated sour gas from Separators and stripper will be gathered and sent to the MP flaring system. Utilities of the plant are consisting of Injection packages, Fuel Gas and Diesel system, Potable Water and Air Compressor system.

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced August 2013

CONTACTS
Project Manager: Mr. V. Hashemi
Technical Manager: Mr. R. Johari Nad

CLIENT CONTACTS
Person-in-charge: Mr. S. Gholami (Project Manager)
Tel: 09121232135
**Details of Projects**

### 142 TH Project

**Chlorine Purification Unit of Khuzestan Petrochemical Company**

**CLIENT**
Khuzestan Petrochemical Company

**DESCRIPTION**
Impure Chlorine sending from Arvand Unit comes to Chlorine Purification to purify to desire concentration and export to downstream units. Vents streams from Chlorine Unit gather and sent to Hypochlorite production unit. It is to be notified that currently due to changing feed source of chlorine from Bandar Imam to Arvand some of equipment is not applicable no longer so they have been out of service.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced September 2013

**CONTACTS:**
- **Project Manager:** Mr. V. Hashemi
- **Person-in-charge:** Mr. H.A. Darvishi (Head of HSE Department)

### 141 TH Project

**Vendor Packages of South Pars Phases 17&18**

**CLIENT**
Industrial Projects Management of Iran (IPMI)

**DESCRIPTION**
Three process packages, including sulphur pastillation, process gas and refrigeration compressors, and air compressors in presence of package vendors were checked in this project to find the potential of associated hazards and operational problems.

**CONTENTS**
- Package HAZard and OPerability (HAZOP)

**STATUS**
Completed

**CONTACTS:**
- **Project Manager:** Dr. F. Nouraei
- **Person-in-charge:** Mr. Davudabadi (Proj. Mgr.)

**Tel:** 88662313
## Details of Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>140TH Project</strong></td>
<td><strong>West Ethylene Pipeline Compressor Stations</strong></td>
</tr>
<tr>
<td><strong>CLIENT</strong></td>
<td>Oil Turbo Compressor Construction Company (OTCC)</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>National Petrochemical Company/Petrochemical Industries Development Management Company (NPC/PIDMCO) have intended to perform Ethylene gas transmission pipeline and gas compressor stations from Assaluyeh and Gachsaran coasts in Persian Gulf to Mahabad/Miyandoab for future Petrochemical plants in several western provinces of Iran. With this guide line, a new 24” gas transmission pipeline and some Gas Compressor Stations.</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td>- HAZard and OPerability (HAZOP) - Safety Integrity Level (SIL)</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Commenced: June 2013</td>
</tr>
<tr>
<td><strong>CONTACTS</strong></td>
<td>Project Manager: Mr. V. Hashemi</td>
</tr>
<tr>
<td><strong>CLIENT CONTACTS</strong></td>
<td>Person-in-charge: Mr. M. Esmaeli Tel: 09124265937</td>
</tr>
</tbody>
</table>

| **139TH Project** | **Natural Gas Odorant Production Unit** |
| **CLIENT** | Jahanpars Engineering and Construction Company |
| **DESCRIPTION** | A new 800 tons/year natural gas odorant production plant EPC project at detail engineering phases to be installed as part of the existing South Pars Gas Field Development Phase 1 gas processing complex at Assaluyeh. The license of the process is authorized by Research Institute of Petroleum Industry (RIPI). |
| **CONTENTS** | - SIL Determination Study |
| **STATUS** | Completed October 2013 |
| **CONTACTS** | Project Manager: Dr. F. Nouraei |
| **CLIENT CONTACTS** | Person-in-charge: Mr. D. Panahi Tel: 27624373 |
Details of Projects

CLIENT
Oil & Energy Industries Development Company (OEID)

DESCRIPTION
In General The Main Process Area of This Project Consists of:

- Cluster (HMC)
- Production Unit (HPU)
- Gas Compression Unit (HCS)
- HCS Unit Consists of HP and LP Compressors.

CONTENTS

- HAZarad and OPerability (HAZOP)

STATUS
Commenced August 2013

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Dr. Masoudi (Head of Engineering Department) Tel: 22028716

138 TH Project
Haftkel Production Unit

137 TH Project
Al-Taijyat and Al-Zawraa Football Stadiums in Baghdad, Iraq

CLIENT
TTBP Consulting Engineers Company

DESCRIPTION
TTBP, a subsidiary of Boland Payeh, one of the most experienced architectural and structural design and construction company, has hired AIPCECO to perform various safety studies, including emergency escape, fire protection (active/passive), smoke extraction, security and general safety.

CONTENTS

- Emergency escape
- Fire protection (active/passive)
- Smoke extraction
- Security Risk Assessment and Management
- General safety

STATUS
Commenced August 2013

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. R. Rouholamin (Proj. Mgr.) Tel: 88806310
Details of Projects

**136 TH Project**  
Reformer CO2 Recovery Unit of Kermanshah Petrochemical Complex

**CLIENT**  
SCD (Shahrekord Carbon Dioxide Company)

**DESCRIPTION**  
KPIC (Kermanshah Petrochemical Industries Company) intends to establish a new CDR facility in order to recover CO2 from the existing stack of the ammonia plant. For this purpose, a CDR plant is to be constructed, which includes some refining process with a nominal capacity of 132 MTPD CO2 in gaseous form with 1.8 bar (a) pressure. The produced CO2 will be used in Urea Plant.

**CONTENTS**  
- HAZard and OPerability (HAZOP)  
- HAZard IDentification (HAZID)

**STATUS**  
Commenced July 2013

**CONTACTS:**  
Project Manager: Mr. V. Hashemi
Person-in-charge: Mr. Kaviani (Project Manager)  
Tel: 09121136715

**135 TH Project**  
Bu Ali Sina Petrochemical Complex

**CLIENT**  
Bu Ali Sina Petrochemical Company

**DESCRIPTION**  
Bu Ali Sina Petrochemical Complex is located in the south–west of I.R. of IRAN, at the Persian Gulf shore, within the boundaries of Mahshahr, a district of Bandar-e- Imam Khomeini (BIK). The complex feed including light and Heavy Naphtha and Pyrolysis Gasoline. Raw materials turn to profitable and valuable products such as Aromatics and Benzene for domestic consumption and export. HSE Department of the complex has planned for HSE risk management in non-processing units. AIPCECO proposed “GAP Analysis” and “HAZID” for this request and was approved. “HSE Risk Management in BSPC” project aims to improve the risk management system. It is planned in two main phases. First phase of this project is analysis of current status of risk management system by GAP Analysis method. Second phase is Hazard identification by HAZID method and risk assessment.

**CONTENTS**  
- Gap Analysis  
- HAZard IDentification (HAZID)

**STATUS**  
Commenced September 2013

**CONTACTS:**  
Project Manager: Ms. SH. Shaker
Person-in-charge: Mr. Mehdi Esmailabadi  
Tel: 09173053189
### 134\textsuperscript{TH} Project

**Utility and Off-site of Lordegan Petrochemical Company**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Hampa Energy Design &amp; Engineering Company (HEDCO)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Utility services of Lordegan Petrochemical Complex (11th Ammonia and Urea) including Compressed Air and Nitrogen, Cooling Water, Fuel Systems, Water and Waste Water Treatment, Fire Water System and Power and Steam Generation are studied using HAZOP technique in current project.</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td>▪ HAZard and OPerability (HAZOP)</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Commenced: June 2013</td>
</tr>
<tr>
<td><strong>CONTACTS</strong></td>
<td>Project Manager: Mr. V. Hashemi</td>
</tr>
</tbody>
</table>
| | Person-in-charge: Mr. Ali Arshadi  
Tel: (0711) 2263183-96 |

### 133\textsuperscript{TH} Project

**Sarvestan-Saadat Abad Oil Field Development Project**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>ODCC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Disposal gas from different separation stages is compressed from about 2 bar to about 340 bar by 6 compressors in series, each stage is two parallel trains and is injected to disposal well. Sarvestan-Saadat Abad Oil Field Development is under management of Iran Central Oil Fields Company (ICOFC).</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td>▪ HAZard and OPerability (HAZOP)</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Commenced May 2013</td>
</tr>
<tr>
<td><strong>CONTACTS</strong></td>
<td>Project Manager: Mr. V. Hashemi</td>
</tr>
</tbody>
</table>
| | Person-in-charge: Mr. Teymouri  
Tel: 09125499429 |

Head Office: Unit 3, No. 290, Zafar Ave., between Modarres highway & Africa Blvd., Tehran, Iran.  
Tel/Fax: +9821-88871504, 527, 531 and 547  
www.AIPCECO.com
**132 TH Project**

**Conceptual and Basic design of NGL-2400 Plant**

**CLIENT**

Enerchimi Engineering Company

**DESCRIPTION**

NGL-2400 which includes all process and utility units is able to produce C2+ and NGL. This plant receives 180 MMSCFD feed from Khami and Asmari reservoirs of Rage-Sefid Field Development. C2+ product will be transferred to Mahshahr central fractionation unit (CFU-100/200). In case of NGL operation mode the produced NGL will be sent to the existing NGL network via a pipeline, Lean gas will be transferred by pipeline for injection purpose in Karanj field and the produced acid gas will be transferred by pipeline toward IGAT-5.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- Quantitative Risk Assessment (QRA)

**STATUS**

Commenced May 2014

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Ahang
  - Tel: 021-88799771

---

**131 TH Project**

**Farashband Gas Processing Facilities**

**CLIENT**

Enerchimi Engineering Company

**DESCRIPTION**

Iran Central Oil Fields Company (ICOFC) has undertaken establishment of Farashband Gas Treatment Facilities in order to process gas from various fields. Enerchimi Engineering Co., as the EPCI contractor has hired AIPCECO to perform HAZOP, SIL, CM and QRA studies for the main process (Dehydration, Dew-Point Control and Condensate Stabilization) and utility units of the project. SIL and QRA studies shall also cover EPC2 package.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)
- Consequence Modeling
- Quantitative Risk Assessment (QRA)

**STATUS**

Commenced May 2013

**CONTACTS:**

- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

- Person-in-charge: Mr. Dowlatshahi (Project Manager)
  - Tel: 88799771
Details of Projects

130th Project  Damavand Petrochemical Complex Gas Station

CLIENT
Petro Part Company

DESCRIPTION
Gas Pressure Reducing Station of Damavand Petrochemical Company consists of two separate stations for providing feed and fuel with 60 and 30 bar respectively. Inlet gas comes from IGAT III at a pressure equal to 90 barg. Each station consists of filter separators, dry gas filters, flow measuring facilities and pressure regulators, also in fuel gas station, water bath hearers have been considered in order to increasing temperature of gas before reducing pressure.

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced May 2013

CONTACTS:
Project Manager: Mr. V. Hashemi
Person-in-charge: Mr. Shirazi (Project Manager) Tel: 09121943752

129th Project  Sirri NGL Plant

CLIENT
NGI/OICO (Oil Industries Commissioning & Operation Co.)

DESCRIPTION
Oil Industries Commissioning & Operation Company (OICO) intends to start operating Sirri NGL Plant, with the personnel using construction phase buildings are very close to some of the storage tanks, and there are concerns about personnel safety. AIPCECO was hired by OICO through NGI to perform consequence modelling and quantitative risk analysis of the buildings, acc. to API RP 752. This study is aimed at screening and determining buildings vulnerable to vapour cloud explosion (VCE) damage. Checking emissions from flare is another part of the study.

CONTENTS
- Building Blast Study
- Flare radiation Study

STATUS
Commenced March 2013

CONTACTS:
Project Manager: Dr. F. Nouraei
Person-in-charge: Mr. F. Ahmadi Tel: 22971442
Foroozan Field Development New F18 Platform

**CLIENT**

Iran International General Contractor Company (IGC)

**DESCRIPTION**

Iranian offshore oil company (IOC) intends to further develop Foroozan field through execution of the new F18 wellhead platform project near the existing Foroozan complex together with infield pipelines & submarine cables and necessary extension of existing of FX platform, 110 km away from Kharg Island. Iran International General Contractor (IGC), the EPCI contractor of the project employed AIPCECO to perform third-party services of HAZID, HAZOP and SIL studies.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)
- HAZard IDentification (HAZID)

**STATUS**

Commenced March 2013

**CONTACTS**

Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS**

Person-in-charge: Mr. Majd (Project Manager)  Tel: 23012540

---

Shirkooh (Yazd) Power Plant

**CLIENT**

FARAB Energy & Water Projects

**DESCRIPTION**

Farab has undertaken Yazd-Shirkooh Combined Cycle Power Plant project on a BOO basis. In the process of shifting from mainly hydro-electric to combined cycle power plants, Farab is willing to systematically identify risks that may be threatening personnel, equipment and operation continuity in operation phase. AIPCECO has been asked to perform a HAZID study to identify hazards of various types and the available safeguards, thereby completing the system with adequate barriers. This is the very first HAZID study ever performed in Iran on a power plant.

**CONTENTS**

- HAZard IDentification (HAZID)

**STATUS**

Commenced March 2013

**CONTACTS**

Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS**

Person-in-charge: Mr. Famourzadeh (Project Manager)  Tel: 88917390-6
Farzad-A Gas Field Development

CLIENT
SLT International

DESCRIPTION
SLT International (SLT) has undertaken Conceptual and FEED engineering services for development of ‘Farzad A’ gas field in Persian Gulf. The project includes three satellite platforms and one main platform. The field fluid is gas with very high H2S, CO2 and free elemental sulphur content. The alternatives for the platforms are to use various solvents for the elemental sulphur and either to separate LQ from or combine it with the main platform. AIPCECO is performing a Concept Risk Assessment comparing the above alternatives, reviewing layout of the platforms in different cases and identifying major safety items like fire pumps and blast walls with estimates of their main properties.

CONTENTS
- Concept Risk Assessment and Optimization

STATUS
Commenced February 2013

CONTACTS:

<table>
<thead>
<tr>
<th>Project Manager:</th>
<th>Dr. F. Nouraei</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-in-charge:</td>
<td>Mr. N. Nourisamie (Project Manager) Tel: 22023946</td>
</tr>
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Oxygen Plants in Mobarakhe Steel, Saba and New Development Plants

CLIENT
Esfahan Mobarakhe Steel Company

DESCRIPTION
According to existing consequence assessment standards, understanding of the maximum radius of fire, explosion, emission of toxic and also hazards of cryogenic liquid dispersion (such as asphyxiation, burn, freeze and…) that may happen in separation of air components units (oxygen production unit), are very important and have the importance role in response to accident and emergency situation. Moreover these results can help to decisions to determine safe fire zones and equipment’s layout, the frequency of Technical Inspections, emergency response planning, determination of directions, safety places and other key decisions in providing safety in steel industrial engineering studies in the current project with using consequence modelling are included the following items:
- Designation of Fire zones
- Assessment and validation of suitable distances between units boundaries
- Determination of Impacted And Restricted Areas
- Consequence modelling

CONTENTS
- Consequence Modelling

STATUS
Commenced December 2013

CONTACTS:

<table>
<thead>
<tr>
<th>Project Manager:</th>
<th>Dr. D. Rashtchian</th>
</tr>
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<tr>
<td>Person-in-charge:</td>
<td>Mr. Mir (Project Manager) Tel: 03355435458</td>
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Details of Projects

124th Project  Dehdasht Petrochemical Company - Offsite and Utility Section

CLIENT
Bamdej Tarh Consulting Engineers

DESCRIPTION
This plant consists of Steam unit, Natural Gas Let-Down Station unit, Fuel Storage unit, water Treatment unit, Effluent Treatment unit, Cooling unit, Air Production unit, Nitrogen Production unit, Hydrogen Production unit, Emergency Diesel Generator unit, Evaporation Pond, Fire Fighting unit, Interconnection/Distribution System/Miscellaneous unit, Power plant unit. It is to be noted that AIPCECO had already performed similar studies in Boroujen petrochemical utility and off-site and Mamasani petrochemical utility and off-site, and was in the right position for this new mission.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)

STATUS
Commenced December 2013

CONTACTS:
Project Manager: Mr. V. Hashemi

122th Project  Naft-e Sefid Oil Production Unit

CLIENT
Shanul Farayand Consulting Engineers Company

DESCRIPTION
Naft-e-Sefid Production Unit which is located in north of Ahwaz, produces 20000 – 25000 SBPD crude oil and transfers it to Haftkel PU. Moreover, 25000 BPD crude oil from Masjed Soleiman will be received to the unit and pumped to Ahwaz. The gases evolved from several stages of separation are directed to the gas gathering and compressing system. The associated gases reach to the desired pressure and mix with the sweet gas from separation unit, then transfer to Masjed Soleiman for domestic and industrial services. This plant is under supervision of National Iranian South Oil Fields Company (NISOC).

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced 2012

CONTACTS:
Project Manager: Mr. V. Hashemi
Person-in-charge: Mr. M. Mokhadderati  Tel: 88071455
### 121<sup>th</sup> Project: Yadavaran Oilfield Compressors and API Pumps Packages

**CLIENT**

PEDEC/ SINOPEC Services

**DESCRIPTION**

Process Gas Compressors and API Pumps are two main, long-lead items in development of Yadavaran oilfield project. HAZOP and SIL studies of these packages were performed in presence of delegates of compressors (SBW) and pumps (Deep Blue) vendors and representatives of PEDEC, SIPC, SSK/JP, NCE and Jahan Pars.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- SIL studies (process gas compressors)
- SIL study (API pumps)

**STATUS**

Completed

**CONTACTS:**

Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS:**

Person-in-charge: Wubing, Gong

### 120<sup>th</sup> Project: Abouzar Offshore Oilfield Expansion

**CLIENT**

Consortium of Jahanpars & DRGOIL

**DESCRIPTION**

The Abouzar oil field under supervision of Iranian Offshore OIL CO. (IOOC) is located in Persian gulf some 75 km to the west of Kharg island district. This project includes two Aboozar A20 & A21 new wellhead platforms, infield pipe lines and sub sea cables and some modifications in Existing AA & AC Platforms. Furthermore, each platform includes 6wells.

**CONTENTS**

- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

**STATUS**

Commenced December 2012

**CONTACTS:**

Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS:**

Person-in-charge: Mr. K. Faghihi (Project Manager) Tel: 88052864
### 119<sup>th</sup> Project

**Genaveh 10 Million BBL Storage Tanks**

**CLIENT**
Tehran Jonoob Technical and Construction Company

**DESCRIPTION**
Petro Omid Asia (POA) company intends to carry out detail design and procurement and construction an oil terminal with the 10 million barrels overall capacity including storage, transfer and export light and heavy crude oil in Genaveh region located in Bushehr province. The purpose of the unit is crude fed to the tanks by two 42” light crude Gurreh-Genaveh-Kharg pipelines, one 42” heavy crude Gurreh-Genaveh-Kharg pipeline, one 42” heavy/light crude Gurreh-Genaveh-Kharg pipeline and a 26”-30” light crude Gurreh-Genaveh-Kharg pipeline in order to storage and then pumped to the pipeline again. The storage area is located in south-western Iran.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)

**STATUS**
Commenced 2012

**CONTACTS**
- Project Manager: Dr. F. Nouraei / V. Hashemi
- Person-in-charge: Mr. M. Seyed Hosseini / Mr. B. Khodadaddeh
  - Tel: 88065494 (1065)

### 118<sup>th</sup> Project

**Yadavaran Oilfield Development Export Pipelines**

**CLIENT**
Jahanpars Engineering and Construction Company

**DESCRIPTION**
Yadavaran oil field is located some 70 km to the southwest of Ahwaz and houses a large common oil reservoir. The produced crude passes through a gas/oil separation unit (GOSU) and a central treatment export plant (CTEP). The light and heavy crudes will be exported separately about 100 km away to Ahwaz Booster Station (ABS), while gas is exported to a future NGL plant 38 km away.

**CONTENTS**
- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)
- Safety Integrity Level (SIL)
- Quantitative Risk Assessment (QRA)

**STATUS**
Commenced 2012

**CONTACTS**
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. F. Heidari (Project Manager)
  - Tel: 27604040

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Head Office: Unit 3, No. 290, Zafar Ave., between Modarres highway & Africa Blvd., Tehran, Iran.
Tel/Fax: +9821-88871504, 527, 531 and 547

www.AIPCECO.com
### 117th Project

**NISOC Oil, Gas and NGL Pipeline Crossings**

**CLIENT**
National Iranian South Oil Company (N.I.S.O.C) / Tarhandishan Consulting Engineers Company

**DESCRIPTION**
A wide variety of Oil, Gas and Gas Condensate transferring pipelines’ network distributed in the National Iranian South Oil Company (N.I.S.O.C) zone in various locations were passed over / under permanent major rivers (such as Karoun) and major seasonal rivers (such as Ghalal). According to pipeline engineering standards, to consider all aspects of safety in emergency condition, all pipelines (especially oil and gas condensate pipeline) should be equipped by automatic shut off valves in anywhere with crossing the main rivers (to act in case of rupture). However, some of the major pipelines don’t have such safety equipment’s. On the other hand, the existing essential pipe bridges have at least 40 years old. Therefore it is essential to inspect, minor and major repairs for insurance safe operation in at least thirty next years. In addition, it is necessary to supply devices and instruments for immediate response in any case of leakage or rupture of oil and gas condensate pipeline in to the rivers and basins. The main object of this project could be categorized as follow: Pipeline safety enforcement / Rivers over and under passes safety enforcement / Considering the equipment’s to response of oil leakage in to the rivers

**CONTENTS**
- HAZID & HAZOP Study
- Quantitative Risk Assessment (QRA)
- Pipeline Integrity Management Program (PIM)
- Emergency Response Planning (ERP)

**STATUS**
Commenced 2012

**CONTACTS**:
- Project Manager: Mr. A. Poursafar
- Person-in-charge: Mr. Rahmati (Project Manager)
  - Tel: +982188592403, +982188824370

### 116th Project

**Azar Oilfield Development (Basic Design)**

**CLIENT**
Tehran Raymand Consulting Engineers Company

**DESCRIPTION**
The PROJECT has been divided on following parts: Wells and corresponding flow lines - Separation Unit - Desalting & Stabilizer - Storage Tank & Transfer Pump - Oil & Gas Export Pig Barrels - Gas Compression Unit - Gas Dehydration Unit - Dilution Water System - Waste Water Treatment & Water Injection - Heating Medium System

**CONTENTS**
- HAZOP Study
- HAZID Study
- Quantitative Risk Assessment (QRA)
- SIL study
- RAM Study

**STATUS**
Commenced 2012

**CONTACTS**:
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. E. Behbahani (Project Manager)
  - Tel: 88533058-9 (409)
115TH Project

32” Gas Transfer Pipeline between Phase 6, 7&8 and Phase 17&18

CLIENT

Pars Oil & Gas Company (POGC)/ National Iranian Oil Company (NIOC)/Industrial Projects Management of Iran (IPMI)

DESCRIPTION

The IDRO/OIEC/IOEC consortium has been contracted by the National Iranian Oil Company (NIOC/POGC) to conduct the EPCC for south pars phases 17 & 18 project. This project includes offshore facilities, platform and undersea pipelines, and onshore facilities for the processing of the reservoir fluid. In the current HAZOP project, AIPCECO have conducted the study and meeting for identifying the process hazards and operability difficulties for 32” pipeline sour gas from phase 6&7 which passes through phase 9&10 and connects feed gas from phase 17&18 off-shore platforms.

CONTENTS

- HAZard and OPerability (HAZOP)

STATUS

Commenced 2012

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Davudabadi Tel: 29181381

114TH Project

Bahregan Field Crude Oil Storage Capacity Expansion

CLIENT

Tehran Berkeley Consulting Engineers Company

DESCRIPTION

Bahregan is one of the major processing and export centers located in North West side of Persian Gulf. Iranian Offshore Oil Company (IOOC) intends to renovate and upgrade the existing crude oil loading facilities in Bargeman Oil Center (BOC) terminal, making it suitable for loading of 350,000 DWT capacity super tankers with the rate of 1,200,000 barrels per day. At present, the existing facilities comprise of an onshore pump station and a subsea pipeline and an SPM where tankers could moor for loading of crude oil. The existing facilities had been in service for a long period of time, but have been out of operation for the past years. The existing SPM is located off the coast, where the depth of water is 22m. The pump station is also located in Bahregan Oil Center (BOC) plant and some 500 meters from the sea. AIPCECO performed HAZOP and HAZID studies for the renovation and upgrading project for the EPC contractor of the project, Tehran Berkeley Consulting Engineers.

CONTENTS

- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)

STATUS

Commenced 2012

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. B. Eghbali (Project Manager) Tel: 88740702 (185)
# Details of Projects

## 113<sup>th</sup> Project
**Setareh Qeshm Bunkering and Shipping Services**

### CLIENT
Qeshm Star Bunkering and Shipping Services Company

### DESCRIPTION
In present project in order to develop fuel storage capacity appropriate to anticipated performance, it is designed to construct storage site with 50000 metric tons capacity for storing different kinds of fuel. Pumps with capacities 150 m³/hr and 250 m³/hr for transferring fuel oil to ships are considered also three thermal oil boiler for heating operation of fuel oil in storage tanks in cold seasons are considered. A comprehensive HAZOP study was undertaken for “Qeshm Oil terminal & bunkering project” which consists of facilities described above, in order to identify deficiencies if any, with respect to safety and operability of the plant under all conditions of operation and maintenance.

### CONTENTS
- HAZard and OPerability (HAZOP)
- Quantitative Risk Assessment (QRA)

### STATUS
Commenced 2012

### CONTACTS:
- **Project Manager:** Mr. V. Hashemi
- **Person-in-charge:** Mr. H. Motamedi (Business Manager)  
  Tel: 88722188/88556360

## 112<sup>th</sup> Project
**West Karoun Fields Revamping Project**

### CLIENT
Arvandan Oil & Gas Company / Energy Industries Engineering & Design (EIED)

### DESCRIPTION
The total quantity of oil to be treated in the Arvandan production facilities comes from wells drilled with a quite distance (about 10 to 20 km). It corresponds to a maximum production of 3 x 55,000 bopd, which will be sent to the Ahwaz-Abadan oil trunk line or the export facilities through a pipeline. Each train processes one third of this amount of oil while the associated gas is sent to flare. The installation of three trains similar to the other one, will allow increasing the production to a sustainable plateau rate of 165,000 bopd while the separated associated gas will be flared.

### CONTENTS
- HAZOP Study
- HAZID Study
- Quantitative Risk Assessment (QRA)

### STATUS
Commenced 2012

### CONTACTS:
- **Project Manager:** Dr. F. Nouraei
- **Person-in-charge:** Mr. R. As’adi (Project Manager)  
  Tel: 23054718 - 22563957
111TH Project
Abadan-Rey Pipeline Pump Stations

CLIENT
Bina Consulting Engineers Company

DESCRIPTION
Energy gostar has taken the engineering, procurement and construction of two pipelines for transferring sour crude oil and products from Sabzab and Abadan to Rey terminal. The crude oil pipeline is approximately 650 km in length which includes six pump stations, one pressure reduction station and one terminal. The product pipeline is approximately 900 km in length which includes seven pump stations and one pressure reduction station.

CONTENTS
- HAZOP Study
- HAZID Study
- Quantitative Risk Assessment (QRA)

STATUS
Commenced 2012

CONTACTS:
Project Manager: Dr. F. Nouraei

110TH Project
Arak Petrochemical Company Storage Tanks and Export Facilities at Mahshahr

CLIENT
Iran Itok Company

DESCRIPTION
Shazand petrochemical company is intended to construct five storage tanks in the Mahshahr export terminal to store the petrochemical products. Two 7000 m³ external floating roof tanks are considered for hydrogenated pyrolysis gasoline and the other three 5000 m³ tanks are used for storage of alcohols, amines and glycols. These products are filled to tanks by road trucks. By using a central pump station, each product is transferred via a separate transfer pipeline to jetty loading arms for export. Iran Itok company has undertaken the EPC contract of the project. AIPCECO has conducted the HAZOP study at design phase.

CONTENTS
- HAZard and OPerability (HAZOP)

STATUS
Commenced 2012 but terminated due to project problems

CONTACTS:
Project Manager: Mr. V. Hashemi

Person-in-charge: Mr. N. Mirfashihi  Tel: 88066209 (189)
109 TH Project
Yadavaran Oilfield Development Project LLI Packages and EPCC Packages Interfaces

CLIENT
SINOPEC Services
DESCRIPTION
As part of their obligations for the approval stage of long lead packages, Sinopec International Petroleum Exploration and Production Corporation-Middle East (SIPC) asked AIPCECO to perform HAZOP and SIL studies on all process gas compressors, namely 1st and 2nd stage stabilized gas compressors, sales gas compressors and gas lift compressor. SIPC also asked for a SIL study on 6 API Pumps of the project. The joint meetings of these studies were attended by delegates from vendor companies.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)
STATUS
Commenced 2012
CONTACTS:
Project Manager: Dr. F. Nouraei

108 TH Project
Fault Tree Analysis for Hazard Identification and Risk Assessment of Mobarakeh Steel Complex Cranes Operations

CLIENT
Esfahan Mobarakeh Steel Company
DESCRIPTION
Project Phases:
1-Understanding the structure and operation of overhead cranes that are used to transport ladles
2-Training and forming team working
3-To identify possible scenarios
4-To implement FTA for each scenario

CONTENTS
- (Fault Tree Analysis) FTA Study
STATUS
Commenced 2012
CONTACTS:
Project Manager: Dr. D. Rashtchian

Client Contacts:
Person-in-charge: Mr. H. Modaresifar (Safety & Fire Fighting Chief) Tel: +983355433855
**107th Project**

**Firoozabad Olefin Complex**

**CLIENT**
Nargan Engineering Company (NEC)

**DESCRIPTION**
Firoozabad olefin plant is intended to construct and operate with a nominal capacity of 1 mega tone olefins near the Firoozabad in Fars state. This plant consists of cracking furnace (10), hot section (20), compressor section (30), ethylene recovery and ethylene purification (40), steam, blow-down, cooling water, fuel gas and other utilities (60), product storage located in storage area (70), ethane cracking plant storages (80) and flare system (90).

**CONTENTS**
- HAZOP Study for units 10 to 80

**STATUS**
Commenced 2012

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**:
- Person-in-charge: Mr. H. Ramezani  
  Tel: 88910165

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**106th Project**

**Fractionation Section of Parsian C2+ Recovery Plant**

**CLIENT**
Hampa Energy Engineering and Design Company (HEDCO)

**DESCRIPTION**
This plant consists of 2 sites in series for pre-treatment and demethanizer in site i and deethanizer, depropanizer, debutanizer and co2 removal in site ii with relevant facilities and utilities in each site. In addition to product storage tanks and transferring facilities, utilities are designed for operation of plant including refrigeration system, cooling tower and cooling water distribution, flare systems, hp and lp steam distribution with steam condensate collection network and other general utility services. Respecting to light hydrocarbon related processes under relatively high pressure condition also valuable products, massive investments need to be considered also in case of failures, substantial human related hazards for personnel and neighbouring population, property damages and environmental impacts are probable. Also cryogenic operation is an important concern.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced 2012

**CONTACTS**:
- Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS**:
- Person-in-charge: Mr. M. Saeedian (Project Manager)  
  Tel: 0711-2136441
### 105th Project  
Utility Units of Zanjan Petrochemical Plant

**CLIENT**  
Hampa Energy Engineering and Design Company (HEDCO)

**DESCRIPTION**  
Zanjan petrochemical industrial company intends to establish an ammonia and urea complex with all associated utilities with off-site facilities in Zanjan province in Islamic Republic of Iran. Aftab Imen Parto consulting engineers has undertaken the implementation of HAZOP study for offsite facilities include ammonia transfer pumps, ammonia storage facilities and tanks, loading arms, flare stacks, condensate pumps and tanks.

**CONTENTS**  
- HAZard and OPerability (HAZOP)

**STATUS**  
Commenced 2012

**CONTACTS**

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<th>Project Manager:</th>
<th>Mr. V. Hashemi</th>
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**CLIENT CONTACTS**

<table>
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<tr>
<th>Person-in-charge:</th>
<th>Mr. M. Pourzarrabi</th>
<th>Tel: 0711-2136431-32</th>
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### 104th Project  
Shurijeh Gas Treatment, Injection and Storage Facilities

**CLIENT**  
JondiShapur Company

**DESCRIPTION**  
JondiShapur has undertaken detailed design of Shurijeh Gas Injection, Storage and Treatment Facilities for Natural Gas Storage Company (NGSC). The project plant units are the transfer pipeline from network to plant, gas compression and storage unit for 10 MMSCMD sweet gas using gas turbo compressors, gas liquid adsorption, dehydration and dew point control units and gas condensate stabilization. AIPCECO performed various studies including Consequence Modeling for this project in mid-2010 in basic design. In 2012, Jondi Shapur invited AIPCECO to revise the study based on the updated plot plan and review the fire water network as part of the ongoing detailed design.

**CONTENTS**  
- Consequence Modeling

**STATUS**  
Commenced 2012

**CONTACTS**

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<th>Dr. F. Nouraei</th>
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**CLIENT CONTACTS**

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<tr>
<th>Person-in-charge:</th>
<th>Mr. A. Behrouzi (Project Manager)</th>
<th>Tel: 26405040</th>
</tr>
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</table>
103 TH Project

Jetty and Loading Facilities of Kharg NGL Recovery Plant

CLIENT
Rahbord Energy Design & Development Engineering company

DESCRIPTION
Safety studies of Feed and Products Transmission Pipelines Corridor, Storage Tanks & Loading/Unloading Facilities for Mokran Petrochemical Complex were implemented in this project. These transfer lines and storage tank are used for these products: Benzene, Ammonia, Ethylene, Propylene, Heavy Ends, Gas condensate, Butene-1, Butadiene 1-3, MEG, DEG, P-Xylene and O-Xylene and Natural Gas.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)

STATUS
Commenced 2012

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. M. Moshtaghian  Tel: 88015475

102 TH Project

Yadavaran EPS Facilities

CLIENT
Jahanpars Engineering and Construction Company

DESCRIPTION
SINOPEC service kish company-Jahanpars engineering and construction company consortium (SSK/JP) has undertaken detailed design and construction of some facilities of Yadavaran oil field development project. During detail design phase for early production of field, SSK/JP called for a HAZOP, SIL and QRA studies in order to identify areas where any major safety or operability issues may exist. PEDEC, SIPC, NAMVARAN consulting engineer's managers, OEID and AOGC were present in the study.

CONTENTS
- HAZOP Study
- Safety Integrity Level (SIL)
- Quantitative Risk Assessment (QRA)

STATUS
Commenced 2012

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. Ahmadpour (Project Manager)  Tel: 27624040
# Details of Projects

## 101<sup>th</sup> Project

**Utility Facilities of Kermanshah Petrochemical Complex**

### CLIENT

Kermanshah Petrochemical Complex

### DESCRIPTION

The utilities of Kermanshah petrochemical company consists of feed gas and diesel, raw water gathering and treatment, potable water, fire water, effluent treatment, cooling water, power and steam generation, diesel emergency generator, nitrogen, flare, instrument and plant air and ammonia storage and loading.

### CONTENTS

- HAZard and OPerability (HAZOP)

### STATUS

Commenced 2012

### CONTACTS:

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<th>Name</th>
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<tr>
<td>Project Manager</td>
<td>Mr. V. Hashemi</td>
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<tr>
<td>Technical Manager</td>
<td>Mr. R. Johari Nad</td>
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### CLIENT CONTACTS:

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<tr>
<td>Person-in-charge</td>
<td>Mr. S. Poursoleyman</td>
<td>08323272127</td>
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## 100<sup>th</sup> Project

**Qeshm Oil Production Unit Extension**

### CLIENT

Saied Sanat Maron Company

### DESCRIPTION

The project concerns installation of new 20"Onshore Oil Pipeline (30 KM) in Parallel with the existing 16" Onshore Oil Pipeline and relevant launching and receiving facilities and landfall and Qeshm Oil Production Unit areas, extension of existing Qeshm Oil Production Unit, new HP Flare System, new Fuel Gas Let-down Station, new Oily Water Treatment System, new Closed Drain System and modification of some existing facilities.

### CONTENTS

- HAZard and OPerability (HAZOP)
- HAZard IDentification (HAZID)

### STATUS

Commenced April 2012

### CONTACTS:

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<tr>
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<th>Name</th>
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<tr>
<td>Project Manager</td>
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<td>Technical manager</td>
<td>Mr. R. Johari Nad</td>
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### CLIENT CONTACTS:

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<tr>
<td>Person-in-charge</td>
<td>Mr. Yazdanipour</td>
<td>88550409</td>
</tr>
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</table>
Details of Projects

99th Project: Plastic Films Production Plant

CLIENT
Bayazian Industrial Group

DESCRIPTION
Bayazian Industrial Group is a leading producer of high-performance packaging films and BOBP in its Polfilm & Plot plants. It runs large production plants and their associated warehouse and solvent recovery plant. The objective of this project is to evaluate and complement, if necessary, the available extensive fire protection measures implemented throughout the group’s premises.

CONTENTS
- HAZID Study
- Gap Assessment
- Qualitative Risk Assessment
- Fire Protection System basic design
- Fire Protection System detailed design

STATUS
Commenced March 2012

CONTACTS:

Project Manager: Mr. A. Poursafar
Person-in-charge: Mr. Mazaheri
Tel: 0282-2853240

98th Project: Boroujen Petrochemical Company Utility and Off-Site plant

CLIENT
Bamdej Tarh Consulting Engineers

DESCRIPTION
Boroujen Petrochemical Company (BNPC) intends to setup a utility and off-site plant to supply required utilities for production of 300 kT/yr HDPE. The scope of work consists of utility units of the plant, including Instrument and Plant Air, Nitrogen Generation, Effluent Treatment, Water Treatment, Cooling Water, Steam Production, Power Generation, Hydrogen Generation, Purification, Fire Fighting System, Emergency Diesel Generator, Interconnection, Sewer System, Natural Gas Letdown Station and Fuel Storage.

CONTENTS
- HAZard and OPerability (HAZOP)
- Safety Integrity Level (SIL)

STATUS
Commenced January 2012

CONTACTS:

Project Manager: Mr. V. Hashemi
Person-in-charge: Dr. Hamidi and Dr. Taheri
Tel: 44960271-9
97th Project: Damavand Power & Steam Generation Plant

**CLIENT**
MAPNA Group

**DESCRIPTION**
Damavand Power & Steam Generation plant including phase 1 & 2 consists of 8 Gas Turbine generators, 7 heat recovery steam generators, 2 auxiliary boiler along with supporting utilities and interconnections. Our team is selected by MAPNA to perform a HAZOP study on the whole facilities at this cogeneration plant, which is under construction in Assaluyeh.

**CONTENTS**
- HAZard and OPerability (HAZOP)

**STATUS**
Commenced January 2012

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Shabani
- Tel: 84624057
- Mr. Radmehr

96th Project: Smoke Extract and Ventilation Management of Padideh Shandiz

**CLIENT**
ATEC

**DESCRIPTION**
The project concerns Smoke management of Padideh Shandiz Tourist and Recreational Complex, which is located in the centre of Shandiz town, approximately 35 km northwest of the city of Mashhad, in Iran. The design objectives include management of smoke within the large volume spaces and any un-separated spaces that communicate with the large volume space, i.e. mall buildings, atrium and etc, included in the Padideh Shandiz Shopping Mall.

**CONTENTS**
- Smoke Zone Definition
- Fire size Determination
- Flowrate calculation based on NFPA 92B Models
- Determination of volumetric flowrate of fans for each smoke zone

**STATUS**
Commenced March 2012

**CONTACTS**
- Project Manager: Mr. V. Hashemi
- Technical manager: Mr. A. Emdadifar
- Person-in-charge: Mr. Bazargan
- Tel: 82447510
### 95 TH Project
**Mehr Petrochemical Company-Offsite and Utility Section**

**CLIENT**
- Petro-Sazeh Iranian

**DESCRIPTION**
Mehr Petro Kimia Co. (MEPEC) intends to build complex PDH/PP Plants in Assaluyeh, Iran. The design capacity of PDH plant is 450 KTPA from which 250 KTPA of Polypropylene will be produced in the PP Plant based on LyondellBasell Spherizone® technology, and the remaining Propylene would be sold to third parties.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced February 2012

**CONTACTS:**
- **Project Manager:** Mr. R. Joharinad
- **CLIENT CONTACTS:**
  - **Person-in-charge:** Mr. Salemi  
  - **Tel:** 26409070

### 94 TH Project
**Iran LNG Water Package**

**CLIENT**
- Kherad Industry Technical & Engineering Co.

**DESCRIPTION**
Iran LNG Company intends to setup a utility and off-site plant (IRAN LNG Water Package) to supply required utilities for IRAN LNG Units. This plant is located on 50 km from Assalouyeh.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced February 2012

**CONTACTS:**
- **Project Manager:** Dr. F. Nouraei
- **CLIENT CONTACTS:**
  - **Person-in-charge:** Mr. Afshar  
  - **Tel:** 88210245
Details of Projects

### 93RD Project
**South Pars Gas Field Development – Phase 20 & 21**

**CLIENT**
Oil Turbo Compressor Company (OTCC)

**DESCRIPTION**
The new Phase 20 & 21 onshore complex for the processing of the reservoir fluid will be located on the Iranian coast of the Persian Gulf in the area of Assaluyeh village under supervision of Pars Oil and Gas Co. (POGC). The total capacity of the new Phase 20 & 21 onshore facilities is 2000 MMSCFD of reservoir fluid. Project included export gas compression to export pipeline pressure facilities of the Phase 20 & 21 onshore complex during the detailed engineering design.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced January 2012

**CONTACTS:**
- Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS:**
- Person-in-charge: Mr. Afsari and Mr. Esmaili
  - Tel: 88659713

### 92ND Project
**Gas Treating Units – Iran LNG Complex**

**CLIENT**
Sazeh Consultants

**DESCRIPTION**
Iran LNG Company (ILC), intends to establish an LNG facility on the Persian Gulf coast, in the Assaluyeh Tombak Area. The LNG plant will receive and process approximately 955 MMSCFD of natural gas per train. The overall LNG facility consists of two identical and parallel trains. The current study consists of HAZOP and SIL study of Unit 11, 14, 62, 63, 20 and 00.

**CONTENTS**
- HAZOP Study
- SIL Study

**STATUS**
Commenced February 2012

**CONTACTS:**
- Project Manager: Dr. Nouraei

**CLIENT CONTACTS:**
- Person-in-charge: Mr. Yazdani
  - Tel: 88702103, 88704301 - 6
### 91st Project

**4th Pataveh Gas Compressor Station**

**CLIENT**
Design & Inspection Co.

**DESCRIPTION**
The Iranian gas engineering and development company (IGEDC) has decided to build the 4th Pataveh gas compressor station on the tenth-Iranian gas trunk line (IGAT-X) and this compressor station is aimed to boost natural gas from south of Iran to north of the country for internal consumption. Our company was called by Design & Inspection company to conduct HAZOP and SIL studies for 4th Pataveh gas compressor station during the detailed engineering design.

**CONTENTS**
- HAZOP study
- SIL study

**STATUS**
Commenced October 2011

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Raei and Mrs. Forouzandeh Tel: 88750190

### 90th Project

**Pardis 3rd Ammonia Plant**

**CLIENT**
Namvaran Delvar Engineering Co. (NDEC)

**DESCRIPTION**
Pardis Petrochemical Company intends to construct phase 3 of Pardis Petrochemical Plant to increase amount of Ammonia and Urea products in Assalouyeh region. Ammonia is used either as Urea Plant feed or export independently. The licensor of this plant is M.W.Kellogg and HEDCO is responsible for basic engineering of the project.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced November 2011-Finished February 2012

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Sa'adati Tel: 88603499
Details of Projects

89th Project  
Latif Flow line & Reception Facility at Sawan Central Processing Plant Project

CLIENT
Combined Engineering & Integrated Solutions (CEIS)

DESCRIPTION
OMV (Pakistan) intends to develop Latif upstream facilities by establishing new wellhead facilities and modifying two existing production unit at Sawan. AIPCECO was hired by SMEC-CEIS (Pakistan) to perform HAZID, HAZOP, and SIL studies on the proposed facilities.

CONTENTS
- HAZOP Study
- SIL Study
- HAZID Study

STATUS
Commenced October 2011

CONTACTS:
Project Manager: Dr. F. Nouraei
Person-in-charge: Falak Taj  
Tel/Fax: +92-51-2289205

88th Project  
DRA Production Plant

CLIENT
Aras Sepehr Afza Company

DESCRIPTION
Aras Sepehr Afza intends to construct DRA production unit to produce 3,000,000 Lit/yr. A drag-reducing agent substantially reduces the friction loss that results from the turbulent flow of a fluid in pipeline. HAZOP Study on DRA production unit by demand of Aras Sepehr Afza.

CONTENTS
- HAZOP Study

STATUS
Commenced December 2011

CONTACTS:
Project Manager: Mr. V. Hashemi
Person-in-charge: Dr. S. Maghsodi (Namvaran P&T)  
Tel: 44728458
86th Project  
Yadavaran Oil Field Development - Flow and Infield Lines and Manifolds System and Wellhead Area

CLIENT
Khalkhal Dasht International

DESCRIPTION
This is a part of comprehensive HAZOP and SIL studies performed on several part of Yadavaran field development project, covering wellhead facilities (production and injection) gathering system, and pipeline to CTEP/GOSU. The main contractor of this field was SINOPEC International.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Commenced November 2011

CONTACTS:
Project Manager: Dr. F. Nouraei

85th Project  
Yadavaran Oil Field Development - Gas/Oil Separation Unit (GOSU) and Central Treatment Export Plant (CTEP)

CLIENT
Jahan Pars E&C Company

DESCRIPTION
The Yadavaran oil field is being developed by Petroleum Engineering & Development Company (PEDEC) and SIONPEC company in Khuzestan, Iran to produce light and heavy crude. The project includes Gas/Oil Separation Unit (GOSU) and Central Treatment Export Plant (CTEP). Our company was called by Sinopec Service Kish to conduct HAZOP and SIL studies during detailed design phase of project. The main contractor of this field was SINOPEC International.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Commenced August 2011

CONTACTS:
Project Manager: Dr. F. Nouraei

Person-in-charge: Mr. M. Lankarani Tel: 27624040
84TH Project  HPU & WHCP & OWS Packages of South Pars Phases 15/16

CLIENT
ISOICO/SAFF

DESCRIPTION
Phase 15 and 16 Offshore Platforms of South Pars Gas Field Development Project were under supervision of Pars Oil & Gas Company (POGC) and under construction by ISOICO and SAFF companies. Our company was called by ISOICO to conduct a HAZOP study on hydraulic power unit (HPU) for the wellhead control panel (WHCP) and on Oily Water Treatment system with attendance of packages' vendors.

CONTENTS
- HAZOP Study

STATUS
Commenced October 2011

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. Afshar  Tel: 88837221

83TH Project  Kharg Island Gas Gathering & NGL Recovery Project-Dorood I & II

CLIENT
BIDEC

DESCRIPTION
Kharg Associated Gas Gathering and NGL Recovery is a strategic project in national scale. This project handled by Iran International Engineering Company (IRITEC) as the GC for Iran Offshore Oil Company (IOOC). As part of the extensive studies we have performed on this project, we were asked by BIDEC to perform a HAZOP study on two gas compression stations Dorood I and II, Reception Facilities and FGC (Feed Gas Compression).

CONTENTS
- HAZOP Study

STATUS
Commenced October 2011

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mrs. Nasirifar  Tel: 84075000
82th Project: Tange-e-Bijar & Kamankuh Gas Field

**CLIENT**
Tehran Rayman Consulting Engineers

**DESCRIPTION**
Iranian Central Oil Fields Company (ICOFC) intends to develop Tange-e-Bijar & Kamankuh gas field including production unit (located within 60 km of Ilam) and relevant utilities to increase production capacity. Hired by Tehran Rayman Consulting Engineers, the engineering contractor of the project, we performed HAZID and HAZOP studies and also undertook consequence modeling and analysis for the whole facilities from wellheads through flow lines to Tang-e-Bijar Central Facilities (TCF) and from there to Ilam Separation Facilities (ISF).

**CONTENTS**
- HAZOP Study
- HAZID Study
- Consequence Modeling

**STATUS**
Commenced July 2011

**CONTACTS**
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. Tayebi
- Tel: 88554069

81th Project: Yadavaran Field Development Early Production System

**CLIENT**
Jahan Pars E&C Company

**DESCRIPTION**
Phase 1 of Yadavaran oil field will be developed with two gathering manifold sites, one in Kushk and one in Hosseineh area, a Central Processing Facility (CPF) and the downstream export facilities to Ahwaz Booster Station (ABS), including GOSU/CTEP, Oil/Gas export pipelines and support infrastructure. The Early Production System (EPS) is an acceleration of part of Phase 1 with light oils from 8 selected wells being planned to be fed to an existing facility at Darquain, with rehabilitation of the existing the 1st and 2nd stage separation units, and installation of the 3rd stage separator, transfer pumps, custody transfer metering package and burn pit. Our scope of work includes HAZOP and SIL study of the facilities covered by EPS project and review of the previous HAZOP study performed on wellheads, flow lines, in-field pipelines and offsites of the project. The main contractor of this field was SINOPEC International.

**CONTENTS**
- HAZOP Study
- SIL Study

**STATUS**
Commenced June 2011

**CONTACTS**
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. Gh. Ahmadpour (Project)
- Tel: 88052850
Details of Projects

CLIENT
Pars Engineering Company

DESCRIPTION
Iranian Gas Engineering and Development Company (IGEDC) intends to construct IGAT VI pipeline including 5 Booster Gas Compressor Stations to transfer sweet gas from Assaluyeh (phases 9 & 10 and in the future, phase 12) to near Bidboland refinery and then to Ahwaz through an EPC contract. Our company was called by Pars Engineering Company to conduct HAZOP, HAZID and SIL studies for Khoormouj and Deylam compressor stations.

CONTENTS
- HAZOP Study
- HAZID Study
- SIL Study

STATUS
Commenced July 2011

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. Azarmsa (Managing Director) Tel: 88736205

80th Project
IGAT VI Khoormouj and Deylam Compressor Stations

79th Project
Mamassani Petrochemical Company Utility and Off-Sites

CLIENT
Bamdej Tarh

DESCRIPTION
Mamassani Petrochemical Company intends to setup a utility and off-site plant (MUOP) to supply required utilities for production of 300 kt/yr HDPE. The operator has called our company to perform HAZOP and SIL studies on the utility units of the plant, including Instrument and Plant Air, Nitrogen Generation, Effluent Treatment, Water Treatment, Cooling Water, Steam Production, Power Generation, Hydrogen Generation, Purification, Fire Fighting System, Emergency Diesel Generator, Interconnection, Sewer System, Natural Gas Letdown Station and Fuel Storage.

CONTENTS
- HAZOP Study
- SIL Study

STATUS
Commenced May 2011

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Dr. Hamidi / Dr. Reza Taheri Tel: 44960271-9
## 78th Project
### RIPI Gas Distribution Network

**CLIENT**
Maad Kimiya Farayand Company

**DESCRIPTION**
Maad Kimiya Farayand Company is hired by the Research Institute of Petroleum Industry (RIPI) to design Air, Nitrogen, Helium, Carbon Monoxide, Carbon Dioxide, Methane distribution networks for their laboratories and pilot plants.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced February 2011

**CONTACTS:**
- Project Manager: Mr. V. Hashemi
- **CLIENT CONTACTS:**
  - Person-in-charge: Mr. M. Salehi  
    - Tel: 8504652

## 77th Project
### Kermanshah Petrochemical Company

**CLIENT**
Kermanshah Petrochemical Company

**DESCRIPTION**
Kermanshah Petrochemical complex consists of Ammonia unit under license of M.W. Kellogg and Urea unit under license of StamiCarbon. Ammonia with the capacity of 1200 T/D mainly is used for production of urea. The remaind Ammonia is sent to storage in cryogenic condition. This plant is supplying country's needed fertilizer so that commissioning of the company made the country independent regarding Urea fertilizer and prevented the exit of significant amount of foreign currency from Iran. With the start-up of this plant, Iran started exporting fertilizers for the first time and entered fertilizer global markets.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced May 2011

**CONTACTS:**
- Project Manager: Mr. R. Johari Nad
- **CLIENT CONTACTS:**
  - Person-in-charge: Mr. Pour Soleyman  
    - Tel: 08323272127, 11
Details of Projects

76\textsuperscript{TH} Project  

\textbf{Sirri NGL Plant}

\textbf{CLIENT}

Iranian Offshore Oil Company (IOOC)

\textbf{DESCRIPTION}

Sirri Associated Gas Gathering and NGL Recovery project is a strategic project handled by Iranian Offshore Oil Company (IOOC). IOOC asked our company to perform a comprehensive SIL analysis on various parts of this large project. It is meant to bring about fundamental knowledge on the conceptual side of the analysis for a typical NGL recovery plant in order to provide know-how on the safety level of these plants. Furthermore, the project involves preparation of educational packages for SIL analysis and the supporting software PHA-Pro.

\textbf{CONTENTS}

- SIL Analysis
- PHA-Pro software training
- SIL workshop for client personnel
- Development of an educational SIL/PHA-Pro package
- Updating of engineering documents (ESD, Cause & Effect, etc.)

\textbf{STATUS}

Commenced January 2011

\textbf{CONTACTS:}

Project Manager: Dr. F. Nouraei

\textbf{CLIENT CONTACTS:}

Person-in-charge: Mr. M. Mousavi (R&D Dept. Dir.)  
Tel: 2266481

75\textsuperscript{TH} Project  

\textbf{Varavi Development Project}

\textbf{CLIENT}

Farab-Nardis Consortium

\textbf{DESCRIPTION}

Varavi oil field is located in Fars Province in the south western part of Iran. ICOFC intends to develop the field and is going to build wellhead facilities, gas compression station, gathering lines, export pipeline to Parsian Gas Treatment Plant, and supporting utilities. Our team was responsible for performing an Environmental Impact Assessment (EIA) for this development project. Farab/Nardis is the client, which is responsible for EPC of the project.

\textbf{CONTENTS}

- EIA
- EMMP

\textbf{STATUS}

Commenced January 2011

\textbf{CONTACTS:}

Project Manager: Dr. F. Nouraei

\textbf{CLIENT CONTACTS:}

Person-in-charge: Mr. Safaie  
Tel: 88556734-8
**74 TH Project**  
**Kharg NGL Project - Utility Area**

**CLIENT**  
Farab-Nardis Consortium

**DESCRIPTION**  
Kharg Associated Gas Gathering and NGL Recovery is a strategic project in national scale. Project runs by Iran Offshore Oil Company (IOOC) under design of IRITEC, which includes a complete utility section provides power, fuel and other services like instrument air.

**CONTENTS**  
- HAZID
- HAZOP
- RAM Study
- Consequence Modeling
- Quantitative Risk Assessment (QRA)
- Comprehensive Safety Analysis

**STATUS**  
Commenced January 2011-Finished February 2012

**CONTACTS:**  
- Project Manager: Dr. F. Nouraei
- Technical Coordinator: Mr. H. Movahhedi (Proj. Man.)  
  Ms. Z. Eghbali  
  Tel: 82132653

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**73 TH Project**  
**Kharg NGL Plant**

**CLIENT**  
Iran International Engineering Co. (IRITEC)

**DESCRIPTION**  
Kharg Associated Gas Gathering and NGL Recovery is a strategic project in national scale. This project was handled by Iran International Engineering Company (IRITEC) as the GC for Iran Offshore Oil Company (IOOC). It consists of two compressor stations, gathering pipelines and a nearly 300 MMSCFD gas treatment and NGL recovery complex. As a repeated Client, IRITEC asked our company to perform a HAZID study on various parts of this large project, including the two gas compression stations Dorood I and II, gathering pipelines, reception facilities, NGL recovery plant, jetty area facilities and utilities. The project involved interaction with various sub-contractors of the NGL project.

**CONTENTS**  
- HAZID Study

**STATUS**  
Commenced December 2010

**CONTACTS:**  
- Project Manager: Dr. F. Nouraei
- Technical Coordinator: Mr. A. Talebi Anaraki (Proj. Man.)  
  Ms. N. Sharifzadeh  
  Tel: 81282173, 81283810

  Tel: 88889312, 8877816-9
Details of Projects

72TH Project  Kharg NGL Plant - Storage Area

CLIENT
Design and Construction Management Company (DCMC)

DESCRIPTION
Kharg Associated Gas Gathering and NGL Recovery is a strategic project in national scale handled by IRITEC at detail design phase. The current project includes 5 large storage tanks for C5, Condensate and LPG products. Like the NGL project itself, the whole specialist studies including identification and risk assessment of hazard scenarios with various techniques, identification of impact areas, development of emergency and fire control plan, reliability assessment, and noise study, AIPCECO was hired by DCMC to undertake these studies. The project involved the very first application of the software PHAST-Risk (DNV, UK) to a project in Iran.

CONTENTS
- HAZID
- HAZOP
- SIL Study
- RAM Study
- Consequence Modeling
- Quantitative Risk Assessment QRA-Pipelines
- Quantitative Risk Assessment QRA-Major Equipment
- Layout optimization, Impacted/Restricted Area & Fire Zones
- Extent of fireproofing determination
- Fire Consequence Layout
- Noise Study

STATUS
Commenced July 2010-Finished February 2012

CONTACTS:
Project Manager:  Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge:  Mr. A. Rahimi (Project Manager)  Tel: 88672475-8

71TH Project  Qeshm Topping Plant

CLIENT
Nik Sanaat Parsian Investment Co.

DESCRIPTION
Nik Sanat Parsian Company intends to establish the Topping Plant for production Bitumen from heavy asphaltic crude Oil in Qeshm Island in Iran. The duty of this plant is desalting, heating, and heavy crude oil distillation to produce bitumen as a main product and naphtha, atmospheric distillate, vacuum distillate and some other hydrocarbons as byproducts.

CONTENTS
- HAZOP Study
- SIL Analysis

STATUS
Commenced December 2010

CONTACTS:
Project Manager:  Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge:  Mr. H.Ahmadi (Managing Director)  Tel: 88677565-6  Tel: 88677565-6
### 70th Project: Masjid-i-Suleyman Field Development Project

**CLIENT**
China Sichuan Petroleum (CSP) – China National Petroleum Corporation (CNPC)

**DESCRIPTION**
China National Petroleum Corporation has undertaken development of Masjid-i-Suleyman (MiS) field as an EPC project and has recruited China Sichuan Petroleum (CSP) for the engineering of the project. Calling for HAZOP and HAZID studies, CNPC has been supervising employment of a qualified company for performing these studies.

**CONTENTS**
- HAZID Study
- HAZOP Study

**STATUS**
Commenced August 2010

**CONTACTS:**
- Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS:**
- Person-in-charge: Mr. Huo Jiwei
- Technical Coordinator: Mr. Kang Xiang
- Tel: 88936052-5
- Tel: 888096214-88800763

### 69th Project: Flare Relocation Project for South Pars Phase 1

**CLIENT**
Petro Part Co.

**DESCRIPTION**
Pars Oil & Gas Company (POGC) intends to relocate HP & LP flares of Phase 1 of South Pars Development in order to provide safe separation distance to the newly installed equipment. Petro Part company is responsible for the detail engineering of the project.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced July 2010

**CONTACTS:**
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**
- Person-in-charge: Mr. M. Salati
- Tel: 22093250
Details of Projects

**68TH Project**

**Kharg NGL Plant**

**CLIENT**
Iran International Engineering Co. (IRITEC)

**DESCRIPTION**
Kharg Associated Gas Gathering and NGL Recovery is a strategic project in National scale. This project handled by Iran International Engineering Company (IRITEC) as the GC for Iran Offshore Oil Company (IOOC). It consists of two compressor stations, gathering pipelines and a nearly 300 MMSCFD gas treatment and NGL recovery complex. Based on its reputation of being the pioneer in risk assessment in Iran, Aftab Imen Parto was called to perform a comprehensive quantitative risk assessment (QRA) and detailed consequence modelling at detailed engineering stage. Close cooperation with IRITEC to coordinate and supervise the related activities by the project sub-contractors (including TDE of Canada) is a part of the job.

**CONTENTS**
- Consequence Modeling and Quantitative Risk Assessment (QRA)
- Buildings Blast Risk Assessment
- Layout optimization, Impacted/Restricted Area & Fire Zones
- Extent of fireproofing determination

**STATUS**
Commenced July 2010-Finished February 2012

**CONTACTS**:
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. A. Talebi

**CLIENT CONTACTS**:
- Anaraki (Project Manager) Tel: 81282173, 81283810

**67TH Project**

**Arak, Shiraz and Tabriz Bitumen Plants of Pasargad Oil Company**

**CLIENT**
Pasargad Oil Company (POC)

**DESCRIPTION**
After HAZOP studies undertaken by our company for its Tehran and Bandar Abbas Bitumen Plants early 2010, Pasargad Oil Company intended to identify process hazards in Arak, Shiraz and Tabriz Bitumen Plants using the same approach and called upon our company as a repeated client.

**CONTENTS**
- HAZOP Study

**STATUS**
Commenced November 2010- Finished July 2011

**CONTACTS**:
- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. A. Poursafar

**CLIENT CONTACTS**:
- Tel: 23036425
66th Project

Bandar Imam Bitumen Export/Import Terminal

CLIENT
Shargan Consulting Engineers-Pasargad Oil Company (POC)

DESCRIPTION
Pasargad Oil Company intends to install export/import facilities for loading/unloading and storage of bitumen consisting of four storage tanks, heating system, unloading facilities, tanker loading line and other required facilities and buildings in the future Bitumen Export Terminal at Bandar Imam.

CONTENTS
- HAZID Study

STATUS
Commenced October 2010

CONTACTS:
Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:
Person-in-charge: Mr. A. Ghafouri Tel: 88554281

65th Project

Tehran Refinery Sweetening Plant

CLIENT
Tanootas Taban Engineering and Construction Company

DESCRIPTION
Tanootas Taban Company is hired by Tehran Refinery to design an H2S Removal Amine Treating unit for sweetening of sour natural gas, liquid hydrocarbons or off-gas of Tehran Oil Refinery. This project consisted of a formal HAZOP study of the facilities at detailed design phase.

CONTENTS
- HAZOP Study

STATUS
Commenced September 2010

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. M. Tajik Rostami Tel: 88500153
Details of Projects

64th Project: Bandar Abbas Refinery Gasoline Production Increase Project

CLIENT
Petrochemical Industries Design & Engineering Co. (PIDEC)

DESCRIPTION
Bandar Abbas Oil Refining Company intends to increase gasoline production. The detailed designer, namely PIDEC of Shiraz, has hired our company to perform a HAZOP study on the new units. These include units 58 (Amine Treating Unit), 74 (Gasoline Hydrodesulphurization), 79 (Sulphur Recovery), 88 (Sour Water Stripper) and 95 (Naphtha Splitter).

CONTENTS
- HAZOP Study

STATUS
Commenced July 2010

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Abolahrari (Project Manager)
Technical Coordinator: Mr. F. Dehghani
Tel: 0711-2113558
Tel: 0711-2113333

63th Project: Shurijeh Gas Storage Project

CLIENT
Jondishapur

DESCRIPTION
Jondishapur, a leading EPC contractor in the field of upstream oil and gas in Iran, is currently performing detailed design of Shurijeh Gas Processing, Compression and Storage facilities for Natural Gas Storage Company (NGSC). Being at the highest ever level in past projects in Iran, the gas pressure in the plant reaches 345 bar. Therefore, it was considered absolutely necessary to undertake hazard identification and consequence analysis for the facilities. Jondishapur has awarded these studies to our team.

CONTENTS
- Equipment and unit layout analysis
- Determination of fire zones (TOTAL approach)
- Determination of impacted and restricted area (TOTAL approach)
- HAZID
- HAZOP

STATUS
Commenced June 2010-Finished July 2011

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. M. Soleimanzadeh
Technical Coordinator: Ms. S. Ravanbakhsh (coordinator)
Tel: 88677015
Details of Projects

62th Project  Dorood III Compressor Station

CLIENT
Alborz Masir

DESCRIPTION
Construction of the new Dorood III Compressor Station at Kharg Island is an extension project. The ultimate Client – Iran Offshore Oil Company- is going to use this plant to support Kharg NGL Recovery Project with 7350 MMSCFD of natural gas at ~20 bar. As a part of detailed design scope of work, Alborz Masir – The EPC Contractor- has assigned our company to perform specialist HSE engineering studies. These studies range from hazard identification to risk assessment to reliability analysis to environmental impact assessment.

CONTENTS
- HAZID
- HAZOP
- Qualitative Risk Assessment (qRA)
- Quantitative Risk Assessment (QRA)
- Reliability, Availability, Maintainability (RAM) Study
- Environmental Impact Assessment (EIA)

STATUS
Commenced June 2010

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Dr. F. Aghabalazadeh  Tel: 22776324-79

61th Project  Abadan Bitumen Production Plant

CLIENT
Pasargad Oil Company (POC)

DESCRIPTION
Pasargad Oil Company is the largest producer of bitumen in Iran with 6 different sites around the country, including in Abadan, where they operate a bitumen blending and storage site. The company is going to build a green field bitumen production plant in the vicinity of Abadan Petroleum Refinery in order to increase its capacity. The project is in its Basic Design stage and construction will start mid-2010. POC have requested our company to provide Managing Contractor (MC) services for the HSE part of engineering through Basic Design and Detailed Engineering to procurement stage. The service includes improvement of contractors’ HSE management system, as well.

CONTENTS
- Engineering documents review, comment and approval
- Contractors’ HSE management system improvement

STATUS
Commenced February 2010-Finished February 2012

CONTACTS:
Project Manager: Mr. A. Emdadifar

CLIENT CONTACTS:
Person-in-charge: Mr. Poursafar (Head of HSE at POC)  Tel: 23036425
Managing Director: Mr. Ghannad Rezaei  Tel: 23036
### 60th Project: Mahshahr Bitumen Export Terminal

**Client:** Pasargad Oil Company (POC)

**Description:**
Pasargad Oil Company is the largest producer of bitumen in Iran with 6 different sites around the country, including several storage sites. The company is going to build a green field bitumen export terminal at Mahshahr. The project is in its Basic Design stage and construction will start mid-2010. POC have requested our company to provide Managing Contractor (MC) services for the HSE part of engineering through Basic Design and Detailed Engineering to procurement stage.

**Contents:**
- Engineering documents review, comment and approval

**Status:** Commenced February 2010

**Contacts:**
- Project Manager: Mr. A. Emdadifar
- Person-in-charge: Mr. Pour Safar (Head of HSE at POC)
- Managing Director: Mr. Ghannad Rezaei
- Tel: 23036425

### 59th Project: Hengam Oil Field Early Production

**Client:** Iran Offshore Oil Company (IOOC)

**Description:**
Production facilities have been built on Qeshm Island for development of Hengam Oil Field in Strait of Hormuz along with a temporary offshore platform. For early production of the facility, it was necessary to perform a HAZOP study. This was conducted by a team of experts from our company, with participants from offshore and onshore facilities engineering, construction, and operations teams, along with HSE Dept. of IOOC.

**Contents:**
- HAZOP Study

**Status:** Completed

**Contacts:**
- Project Manager: Dr. F. Nouraei
- Person-in-charge: Mr. Farzi (HSE Manager) Tel: 23942565
Details of Projects

58TH Project  Hengam Field Early Production Project

CLIENT
Iran Offshore Oil Company (IOOC)

DESCRIPTION
Production facilities have been built on Qeshm Island for development of Hengam Oil Field in Strait of Hormuz. For early production of the facility, it was necessary to review health, safety and environment issues. This was conducted by a team of experts from our company using ISO and API guidelines. The study was performed in the form of a HAZID study with participants from the engineering (Darya Pala), construction (Jondi Shapur), and operations (IOOC) teams, and HSE Dept. of IOOC.

CONTENTS
- HAZID Study

STATUS
Completed

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. Farzi (HSE Manager)  Tel: 23942565

57TH Project  Karun-Ahwaz Pipeline Corridor

CLIENT
NISOC

DESCRIPTION
The National Iranian South Oil Company (NISOC) operates an extensive network of pipelines including a pipeline corridor in Ahwaz containing the 10" Amak sour gas pipeline and the 12" Bangestan sour oil pipeline. Due to increasing levels of development adjacent to the pipeline corridor, concern has been raised about the pipelines risk levels. As part of engineering services, NISOC have requested Tarh Andishan Company to perform risk assessment of these two pipelines to confirm that risk levels to adjacent populated areas are acceptable. Tarh Andishan Company has outsourced these specialized services to our company.

CONTENTS
- HAZID
- HAZOP
- Quantitative Risk Assessment (QRA)
- Emergency Response Planning
- Pipeline Integrity Management Program

STATUS
Commenced December 2009

CONTACTS:
Project Manager: Dr. E. Kashi

CLIENT CONTACTS:
Person-in-charge: Mr. Abbasian (Project Manager at Tarh Andishan)  Tel: 88824370
Managing Director: Dr. Arabshahi  Tel: 88824370

Head Office: Unit 3, No. 290, Zafar Ave., between Modarres highway & Africa Blvd., Tehran, Iran.
Tel/Fax: +9821-88871504, 527, 531 and 547

www.AIPCECO.com
### 56th Project: Sulphur Granulation Plant

**CLIENT**
Ehsan Joint Venture

**DESCRIPTION**
The Sulphur Granulation Plant is designed for producing sulphur granules from product of the new Tail Gas Treatment Unit of Tehran Oil Refinery and consists of sulphur receiving pit, sulphur pumping facilities, water injection facilities, sulphur granulator drum, air discharge system cyclone, conveyors and silos for truck loading.

**CONTENTS**
- Design review
- HAZOP Study

**STATUS**
Completed

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**:
- Person-in-charge: Mr. A. Teymouri (Project Manager) Tel: 22912620 (110)

### 55th Project: Sirri-Assaluyeh Pipeline

**CLIENT**
IGC

**DESCRIPTION**
The main component of the project is a 32” export pipeline of 540 MMSCFD capacity to transport the raw offshore product from the compression facilities in Sirri Island to onshore gas treatment facilities in Assaluyeh. The project consists of a pig launcher, a pig receiver, emergency and process shut-off valves, discharge facilities to flare system, pressure regulating system and branches for consumers.

**CONTENTS**
- HAZOP Study

**STATUS**
Completed December 2009

**CONTACTS**:
- Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**:
- Person-in-charge: Mr. Hosseini (Project Manager) Tel: 22924944,5
### 54th Project
**Environmental Impact Assessment – Dehloran Development Project**

**CLIENT**

Iran Central Oil Fields Company (ICOFC)

**DESCRIPTION**

Dehloran (together another close field known as Danan) oil filed is located in Ilam Province in the south western part of Iran. ICOFC intends to develop the field and is going to build central oil processing facility, desalters, associated oil/gas pipelines, manifolds, and supporting utilities. Our team is responsible for performing an Environmental Impact Assessment (EIA) for this development project.

**CONTENTS**

- EIA
- EMMP

**STATUS**

Completed

**CONTACTS:**

Project Manager: Dr. F. Nouraei

**CLIENT CONTACTS:**

Person-in-charge: Mr. Ahmadlou (Development Plan Manager) Tel: 88751076

### 53th Project
**Fajr-2 Co-generation Plant**

**CLIENT**

MAPNA

**DESCRIPTION**

MAPNA is the most experienced company in Iran in the engineering and construction of power plants. This project is one of the strategic development projects within MAPNA and is managed by the MAPNA Special Projects Development and Construction Projects Co. Fajr-2 cogeneration plant consists of 4 Gas Turbine generators, and 2 heat recovery steam generators, along with supporting utilities and interconnections. Our team is selected by MAPNA to perform a HAZOP study on the whole facilities at this cogeneration plant, which is under construction in Mahshahr Special Economic Zone.

**CONTENTS**

- HAZOP Study

**STATUS**

Completed

**CONTACTS:**

Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

Person-in-charge: Mr. Sha’abani (Engineering Deputy) Tel: 84624089
## Details of Projects

### 52th Project

**Persian Gulf Star Refinery Water Intake**

**CLIENT**

SADRA

**DESCRIPTION**

Our team is hired by SADRA to perform a HAZOP study on the Water Intake facilities at the Persian Gulf Star Refinery in Bandar Abbas.

**CONTENTS**

- HAZOP Study

**STATUS**

Completed

**CONTACTS:**

- **Project Manager:** Mr. V. Hashemi

**CLIENT CONTACTS:**

- **Person-in-charge:** Mr. Barzegar (Project Manager)  
  **Tel:** 88575301

### 51th Project

**Rangin Caman Project (Site F)**

**CLIENT**

Paydar Energy Persia Consulting Engineers

**DESCRIPTION**

Rangin Caman Plant – Site F consists of three major units including SU1, SU2 and TEA. In this project by mixing, reacting and separation processes, a series of solvents are produced. A utility plant is foreseen to provide units utility requirements, as well. Our team is hired by Paydar Energy Persia to perform HAZOP study on all the project facilities.

**CONTENTS**

- HAZOP Study

**STATUS**

Completed

**CONTACTS:**

- **Project Manager:** Mr. V. Hashemi

**CLIENT CONTACTS:**

- **Person-in-charge:** Mr. Ziyayian (Managing Director)  
  **Tel:** 88775071-3
50 TH Project  Sarajeh Gas Field Early Production Surface Facilities Phase “1”-Part”2”

CLIENT
Iran ITOK

DESCRIPTION
The purpose of this project is to design surface facilities for Sarajeh Gas Field Early Production Surface Facilities Phase “1”-Part”2”. The surface facilities comprise Gas Dew Point Adjustment Unit (Unit 100) and Condensate Stabilization Unit (Unit 200). This project is the part of the overall project which will use the Sarajeh gas field as underground gas storage. Dew point adjustment process is based on Joule-Thompson throttling, and a Stabilizer Tower is used for condensate stabilization. Our team analyses potential hazards using HAZOP method on all the project facilities.

CONTENTS
- HAZOP Study

STATUS
Completed June 2009

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mrs. Aghazadeh (Engineering Manager) Tel: 88066189,90

49 TH Project  NGL-1000 Gas Pre-compression Unit

CLIENT
Kherad Industry Technical & Engineering Co.

DESCRIPTION
National Iranian South Oilfields Company (NISOC) intends to establish a pre-compression station for NGL-1000 Plant with a capacity of 750 MMSCFD in Pazanan area. The gas extracted from Pazanan dome gas reservoir, after treating in NGL-1000 plant, shall supply feed gas of Bid Boland II gas treating plant in the rate of 750 MMSCFD (36 percent of total required Bid Boland II GTP feed gas). As pressure of Pazanan gas field is being reduced, to supply the proper amount of volumetric flow rate of gas for Bid Boland II GTP, the inlet pressure of separation area of NGL-1000 will be reduced to 100 barg. HAZOP study was performed on all the project facilities.

CONTENTS
- HAZOP Study

STATUS
Completed

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. R. Foroozesh (Technical & Engineering Manager) Tel: 88331090
## Details of Projects

### 48<sup>th</sup> Project

**Bandar Abbas Oil Refinery - Section A**

**CLIENT**

Bandar Abbas Oil Refinery

**DESCRIPTION**

Hazard Identification and evaluation via HAZOP and SIL studies, and qualitative risk assessment for Section A of Bandar Abbas Oil Refinery, consisting of Atmospheric and Vacuum Distillation, Visbreaking, LPG Recovery, Shell Soaker Visbreaker, and LSR Naphtha Hydrotreater Units.

**CONTENTS**

- HAZOP Study
- SIL Study
- Qualitative Risk Assessment

**STATUS**

Commenced October 2009-Finished October 2010

**CONTACTS:**

<table>
<thead>
<tr>
<th>Project Manager:</th>
<th>Mr. V. Hashemi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-in-charge:</td>
<td>Mr. Ghanizadeh (R&amp;D Dept.)</td>
</tr>
</tbody>
</table>

### 47<sup>th</sup> Project

**Lavan Island Power Plants Fuel Supply**

**CLIENT**

IOOC - Payandan

**DESCRIPTION**

Lavan Island is one of the major processing and export centers for crude oil, produced from the fields located in the vicinity of the Island. Iran Offshore Oil Company (IOOC) has assigned the development of fuel gas supply system for Salman and Reshadat power plants in the Island to Payandan Company. The facilities include wellhead equipment and initial separation, gas transport pipeline, pig launching/receiving facilities, pressure regulation, and heating system. Our team is hired by M/S Payandan to perform HAZOP, HAZID and SIL studies on all the project facilities.

**CONTENTS**

- HAZOP Study
- HAZID Study
- SIL Study

**STATUS**

Completed

**CONTACTS:**

<table>
<thead>
<tr>
<th>Project Manager:</th>
<th>Mr. V. Hashemi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-in-charge:</td>
<td>Mr. M. Mokhaddarati (Project Manager)</td>
</tr>
</tbody>
</table>
Risk Management and Contractors’ HSE Management System Development of Pasargad Oil Company (POC)

CLIENT
Pasargad Oil Company (POC)

DESCRIPTION
Pasargad Oil Company is the largest producer of industrial bitumen in Iran. The company is willing to improve its performance in two main lines of health, safety and environment (HSE) field, namely risk management and contractors’ HSE performance. Our team will be first reviewing and analyzing present system, documentation and records related to the two above lines and the corporate HSE documentation. Then, the team will continue with systematic hazard identification and risk assessment for plant facilities and other areas in the second phase. In the third phase, a system will be developed for HSE management for EPC projects and the results will be implemented in a current project.

CONTENTS
- OHSAS corporate document review
- Risk Assessment
- HAZOP and HAZID Studies
- System development and documentation
- JSA
- Staff training

STATUS
Commenced April 2009-Finished February 2010

CONTACTS:
Project Manager: Dr. F. Nouraei

Power Generation Plant - South Pars Gas Field Development Phase 6, 7, 8

CLIENT
POGC – Hirbodan

DESCRIPTION
HIRBODAN is the Contractor of Power Generation Plant for South Pars Gas Development Phase 6, 7, 8. This Plant consist of four SIEMENS Gas Turbines (SGT-800), Gas Pressure Reducing Station (GPRS) by TARTARINI, Compressed Air Facilities for Instrumentation and Plant Air (Compressors and Driers by ATLAS COPCO) and drain collecting network and facilities. HAZOP Study is separated in two sections that first section (GPRS, Compressed Air and Drain Network) was held in Tehran-Iran in December 2008 and the second section was held in Finspang-Sweden in January 2009.

CONTENTS
- HAZOP Study

STATUS
Completed January 2009

CONTACTS:
Project Manager: Mr. V. Hashemi

Person-in-charge: Mr Fayazi Tel: 88063320
### Details of Projects

#### 44TH Project
**Esfahan Oil Refinery**

**CLIENT**
National Iranian Oil Refining and Distribution Company

**DESCRIPTION**
Esfahan Oil Refinery was interested in estimating the hazardous effects due to major process accidents to plan a proper emergency response. Our team carried out a study including determination of major weather conditions, scenario selection and ranking, scenario modelling and results interpretation. As a part of this project, our team undertakes translation of the book “Evaluation of the Effects and Consequences of Major Accidents in Industrial Plants,” Elsevier, 2008.

**CONTENTS**
- Weather condition studies
- Topographical condition studies
- Major scenarios determination
- Consequence modeling for all selected scenarios
- Consequence modeling trainings course
- Safe area determination around the refinery
- Flare condition study
- Toxic gas dispersion study
- Book translation
- Preparing educational package for consequence modeling

**STATUS**
Commenced August 2008

**CONTACTS:**
- **Project Manager:** Mr. E. Kashi
- **Person-in-charge:** Mr. Abdoli

#### 43TH Project
**Arak Oil Refinery**

**CLIENT**
Arak Oil Refinery

**DESCRIPTION**
Arak oil refinery was interested in estimating the hazardous effects due to major process accidents to plan a proper emergency response. Our team carried out a study including determination of major weather conditions, scenario selection and ranking, scenario modelling and results interpretation.

**CONTENTS**
- Weather condition studies
- Topographical condition studies
- Major scenarios determination
- Consequence modeling for all selected scenarios
- Safe area determination around the refinery
- Flare condition study
- Toxic gas dispersion study

**STATUS**
Completed

**CONTACTS:**
- **Project Manager:** Mr. V. Hashemi
- **Person-in-charge:** Mr. Gholami

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Tel/Fax: +9821-88871504, 527, 531 and 547

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Details of Projects

42TH Project  Sirri Platforms Renovation Project

CLIENT
Darya Sahel Company

DESCRIPTION
Darya Sahel is performing detail engineering for The Iranian Offshore Oil Company (IOOC) for upgrading/refurbishment of existing installations of Sirri “C” & “D” offshore platforms, in order to meet the new oil production and water injection capacity forecast. Our team is hired to perform HAZOP and HAZID studies on the whole set of topside process and utility facilities.

CONTENTS
- HAZOP Study
- HAZID Study

STATUS
Completed

CONTACTS:
Project Manager: Dr. F. Nouraei

41TH Project  South Gashu Gas Field Development Project

CLIENT
ICOFC - Tehran Raymand Consultants

DESCRIPTION
Tehran Raymand Consultants, a leading engineering and EPC contractor in the field of oil, gas and petrochemical projects in Iran, is performing FEED and basic design for South Gashu Gas Field Development near Bandar Abbas for Iran Central Oil Fields Company (ICOFC). Our team is hired to perform consequence modelling and analysis for prediction of the effects of various accidents on the layout and design in the upstream and downstream areas.

CONTENTS
- Equipment and Unit Layout Optimization
- Building Blast Risk Assessment (to API 752)
- Critical detection point
- Fireproofing requirements
- Determination of Fire Zones (TOTAL approach)
- Determination of Impacted and Restricted Area (TOTAL approach)
- Accident simulation for natural gas and products pipelines
- Accident simulation for wellhead area

STATUS
Upstream part completed

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. H. Mirzaei (Engineering Manager) Tel: 22830909
40th Project: Rangin Caman (Chemicals Manufacturing)

CLIENT
Aria Pishro Gharn and Rangin Caman Engineering Office

DESCRIPTION
M/S Aria Pishro Gharn, EPC contractors in the field of oil and gas projects in Iran, have undertaken engineering, procurement and construction of a paint manufacturing facility for Rangin Caman Company based on technology transfer. Our team is hired to perform several safety engineering activities for completion of the detailed design, from basic philosophies down to procurement documentation and vendor evaluation.

CONTENTS
- HSE Philosophy
- Fire and Explosion Analysis
- Fire Protection Philosophy
- Hazardous Area Classification
- UFD, P&ID and Calculation Notes for all FiFi systems
- Spec.’s and Datasheets for all FiFi and Safety Equipment
- Material Requisitions and TBE

STATUS
Completed

CONTACTS:
Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:
Person-in-charge: Mr. Asaiyan (Project Manager)  Tel: 22001564

39th Project: Bidboland Gas Refinery

CLIENT
Bidboland Gas Refinery

DESCRIPTION
Bidboland gas refinery was interested in estimating the hazardous effects due to probable process accidents to plan a proper emergency response. Our team carried out a study including determination of major weather conditions, scenario selection and ranking, scenario modelling and results interpretation.

CONTENTS
- Weather condition studies
- Topographical condition studies
- Major scenarios determination
- Consequence modeling for all selected scenarios
- Safe area determination around the refinery
- Flare condition study
- Toxic gas dispersion study

STATUS
Completed August 2008

CONTACTS:
Project Manager: Mr. B. Abdolhamidzadeh

CLIENT CONTACTS:
Person-in-charge: Mr. Mohammadnejad
<table>
<thead>
<tr>
<th>Project</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>38(^{th}) Project</strong></td>
<td><strong>NGL-3100 (Cheshme Khosh)</strong></td>
</tr>
<tr>
<td><strong>CLIENT</strong></td>
<td>Sazeh Consultants</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Sazeh Consultants, which is one of the leading engineering/EPC contractors in the field of oil, gas and petrochemical projects in Iran, is performing FEED and basic design of NGL-3100 at Cheshme Khosh, Dehloran region for Iran Central Oil Fields Company (ICOFC). Our scope of work is several safety engineering activities for completion of the design, which are all based on the latest consequence modelling and risk assessment approaches.</td>
</tr>
<tr>
<td><strong>CONTENTS</strong></td>
<td></td>
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<tr>
<td>-</td>
<td>Equipment and unit layout optimization</td>
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<td>-</td>
<td>Building blast risk assessment (to API 752)</td>
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<td>-</td>
<td>Critical detection points</td>
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<td>-</td>
<td>Fireproofing requirements</td>
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<td>-</td>
<td>Flares and cold vents simulation</td>
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<td>-</td>
<td>Determination of fire zones (TOTAL approach)</td>
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<td>Determination of impacted and restricted area (TOTAL approach)</td>
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<td>-</td>
<td>Accident simulation for feed and products pipelines</td>
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<tr>
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<td>Dr. F. Nouraei</td>
</tr>
<tr>
<td><strong>CLIENT CONTACTS:</strong></td>
<td></td>
</tr>
<tr>
<td>Person-in-charge:</td>
<td>Mr. F. Ebrahimzadeh (Project Manager)</td>
</tr>
</tbody>
</table>

| **37\(^{th}\) Project** | **Tondguyan Petrochemical Complex** |
| **CLIENT** | Tondguyan Petrochemical Complex |
| **DESCRIPTION** | Tondguyan petrochemical complex was interested in estimating the hazardous effects due to probable process accidents to plan a proper emergency response. The study performed in this project included determination of prevailing weather conditions, scenario selection and ranking, scenario modelling and scenario interpretation. |
| **CONTENTS** |  |
| - | Weather condition studies |
| - | Topographical condition studies |
| - | Major scenarios determination |
| - | Consequence modeling for all selected scenarios |
| - | Safe area determination around the petrochemical complex |
| - | Toxic gas dispersion study |
| **STATUS** | Completed |
| **CONTACTS:** |  |
| Project Supervisor: | Dr. D. Rashtchian |
| Project Manager: | Dr. B. Abdolhamidzadeh |
| **CLIENT CONTACTS:** |  |
| Person-in-charge: | Mr. Zeraat |
| Tel: | 09166713590 |
### 36th Project: Khesht Oilfield Development Detail Engineering – Safety Engineering Services

**CLIENT**  
ICOFC – OEID - SADRA

**DESCRIPTION**  
SADRA has undertaken detailed engineering of the project, which covers all production, gathering, transmission, utility and processing facilities for development of Khesht oilfield. Our team is hired to provide specialist safety engineering activities typical for a detailed engineering project.

**CONTENTS**
- Safety and Fire Protection Philosophies
- Fire and Explosion Analysis
- Risk Assessment
- Detection Layouts
- Hazardous Area Classification
- Material Requisitions and TBE
- Cause & Effect Charts
- UFD, P&ID and Calculation Notes for all FFi systems
- Spec.’s and Datasheets for all FFi and Safety Equipment
- Escape Routes Drawings and FFi Layouts

**STATUS**  
Commenced June 2008

**CONTACTS**
- **Project Manager:** Dr. F. Nouraei
- **Customer Contacts:**
  - **Person-in-charge:** Mr. Faghihi (Engineering Vice President)  
  - **Tel:** 88575273

### 35th Project: Bandar Abbas Refinery Feed Supply Pipeline and Single Point Mooring (SPM) Project

**CLIENT**  
Qeshm Island Oil and Gas Investment Company (affiliated to Oil Industry Investment Company) – MEP – Rastar Farayand

**DESCRIPTION**  
In the detailed engineering of the project, our team is going to provide specialist hazard identification, risk assessment and services with regards to preparation of safety instructions for start-up and operations. A part of the project is supported by M/S BMT Cordah of UK.

**CONTENTS**
- Systematic Hazard Identification:
  - HAZOP Study
  - HAZID Study
  - FMECA
- Qualitative and Quantitative Risk Assessment
- Ship maneuver simulation
- Development of Emergency Response Plan
- Development of Safe Operating and Maintenance Procedures

**STATUS**  
Completed

**CONTACTS**
- **Project Manager:** Dr. F. Nouraei
- **Customer Contacts:**
  - **Person-in-charge:** Mr. Sheybani (Project MC)  
  - **Tel:** 22763435
34th Project  
Bandar Abbas Bitumen & Heavy Petroleum Products Export Terminal

**CLIENT**  
Middle East Energy Development Company (MEDCO)

**DESCRIPTION**  
The Purpose of the Export Terminal is receiving, storage and transferring of bitumen & heavy petroleum products of Bandar Abbas Oil Refinery for export. MEDCO has undertaken the detailed design engineering of this project and has called for a full HAZOP Study. The project consists of Bitumen Pit, four sets of Loading Pumps and Storage Tanks, Unloading to ship facilities and pipeline in addition to required services consist of Hot Oil system, Compressed Air system, Fuel Oil system and Fire Fighting facilities.

**CONTENTS**  
- HAZOP Study of Bandar Abbas Bitumen and Heavy Petroleum Products Export Terminal

**STATUS**  
Completed

**CONTACTS:**  
Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Bayat  
Tel: 88409327

33th Project  
Ammonia and Chlorine Storages of Shiraz Petrochem Complex

**CLIENT**  
Shiraz Petrochemical Complex

**DESCRIPTION**  
Client faced problems due to the progressive expansion of Marvdasht residential and agricultural area toward the complex that intensified the associated risk on people. The complex was interested in estimating the safe area around the complex to prevent this progress. First, ammonia and chlorine storages were determined as the major scenarios having the most severe effects on the safe area estimation. Afterwards, the distance around the complex representing the mentioned safe area was determined through accident simulations performed using PHAST and credible criteria.

**CONTENTS**  
- Weather condition studies  
- Topographical condition studies  
- Major scenarios determination  
- Safe area determination around the petrochemical complex  
- Different probable accidents due to storages

**STATUS**  
Completed May 2008

**CONTACTS:**  
Project Supervisor: Dr. D. Rashtchian  
Project Manager: Dr. B. Abdolhamidzadeh

**CLIENT CONTACTS:**  
Person-in-charge: Mr. Faham  
Tel: 07112230026-29
## 32th Project

### Lavan Refinery Upgrading & Revamping Project Offsite Utility & Storage Tanks Project (EPC) - Part 2

**CLIENT**

LORC - Iran International General Contractor (IGC) – Rastar Farayand

**DESCRIPTION**

New utility units will be added to the Lavan Oil Refinery (LORC) to cover the forthcoming demands of new process units. The scope of this part is included Waste Water Treatment, Condensate Polishing, Instrument Air, Caustic, Water Desalination, Flare Systems, Steam Generation, Fuel Oil, Fuel Gas

**CONTENTS**

- HAZOP Study

**STATUS**

Completed December 2008

**CONTACTS**

- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Khonsari

**CLIENT CONTACTS**

Person-in-charge: Mr. Khonsari Tel: 22913440-5

## 31th Project

### Lavan Oil Refinery - Existing Heavy Naphtha Hydrotreating Unit

**CLIENT**

LORC - IGC - BINA

**DESCRIPTION**

Hydrotreating section of Existing CRU of LAVAN Oil Refinery will be revamped for treating heavy naphtha products of CDU No. 2, under responsibility of the contractor (IGC-BINA Consortium). The Consortium has called for a full HAZOP Study which has been completed by our company members in October 2008 by preparing draft and finalizing the HAZOP Study in presence of Client (LAVAN Oil Refinery), MC of the project (ITOK Iran) and Contractor (IGC-BINA) representatives.

**CONTENTS**

- HAZOP Study

**STATUS**

Completed October 2008

**CONTACTS**

- Project Manager: Mr. V. Hashemi
- Person-in-charge: Mr. Amiri

**CLIENT CONTACTS**

Person-in-charge: Mr. Amiri Tel: 22913440-5
30 TH Project  South Pars Oil Layer (SPOL)

CLIENT

AMID Engineering & Development Co.

DESCRIPTION

The South Pars Oil Field Development will be executed in two phases; The first phase consists of up to 7 production wells and will dedicate floating Production Facility (FPSO). For Phase 1, one wellhead platform will be installed and individual flow lines will transport fluids from each Christmas Tree valve to a production manifold on Wellhead platform and then will be transferred via flexible lines to FPSO.

CONTENTS

- HAZOP Study

STATUS

Completed August 2008

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ghanizadehfar Tel: 09123146891

29 TH Project  New Tail Gas Treatment Unit - Tehran Oil Refinery

CLIENT

NIOEC - EHSAN Joint Venture

DESCRIPTION

Basic Design of New Tail Gas Treatment (TGT) unit of Tehran Oil Refinery has been performed by TECHNIP-KTI in continuation of new Sulphur Recovery Plant (SRP). EHSAN Joint Venture has undertaken Detail Design of the project which consists of Reduction Reactor, Quench Tower, Amine treatment section, Sulphur Degassing and Storage, Incinerator and Steam Generation. HAZOP Study is held in attendance of NIOEC, TECHNIP-KTI, Tehran Oil Refinery and EHSAN Joint Venture representatives.

CONTENTS

- HAZOP Study

STATUS

Completed September 2008

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Kiani Tel: 22912620-1
Details of Projects

28TH Project

Sulphur Recovery Plant - Tehran Oil Refinery

CLIENT
Nargan Engineers and Constructors

DESCRIPTION
New Sulphur Recovery Plant (SRP) will be added to Tehran Oil Refinery units in order to treating Acid Gases produced from upstream units and recovering sulphur contents of Acid Gases. For this Purpose required facilities including Inlet Separator, Thermal Reactor, Combustion Air Blowers, Cauls Reactor, Sulphur Condensers, Waste Heat Boiler, Blowdown collecting facilities, Sulphur Coalescer and Hydraulic Seals will be installed. Basic design has been executed by TECHNIP-KTI and NEC is responsible of Detail Design Engineering. HAZOP meeting is held in attendance of NIOEC, TECHNIP-KTI, Tehran Oil Refinery, OD&CC (EPC Contractor), EIEDI (MC) and NEC representatives.

CONTENTS
- HAZOP Study

STATUS
Completed August 2008

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Ahmadi (Project Manager) Tel: 0912-1334933

27TH Project

Hydrogen Production Unit - Tehran Oil Refinery

CLIENT
Nargan Engineers and Constructors

DESCRIPTION
Tehran Refinery is going to be revamped and 4 new licensed units to be added to it in order to produce improved gasoil and kerosene products. Nargan, as a part of the EPC consortium of this project, has hired our team to perform HAZOP study of Hydrogen Production (Technip Benelux)

CONTENTS
- HAZOP Study

STATUS
Completed August 2008

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Ahmadi (Project Manager) Tel: 0912-1334933
26TH Project

Tehran Oil Refinery Products Upgrading (Clean Fuels) Project

CLIENT

Oil Design and Engineering Company (OD&CC) – Rastar Farayand

DESCRIPTION

Tehran Refinery is going to be revamped and 4 new licensed units to be added to it in order to produce improved gasoil and kerosene products. The scope of project included Gasoil Hydrodesulfurization and Kerosene Hydrodesulfurization units (both licensed by AXENS).

CONTENTS

▪ HAZOP Study

STATUS

Commenced June 2008

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rabiee (Project Engineering Manager) Tel: 88870017

25TH Project

Mahshahr Oil Terminal Jetties Facilities

CLIENT

Mashin Sazi Arak

DESCRIPTION

Mahshahr Oil Terminal is under revamp and a HAZOP study is required. The project is being handled by a consortium comprising National Iranian Oil Engineering and Construction (NIOE&C) company, Nargan Management Co., and Mashin Sazi Arak Co. The HAZOP study covered the whole onshore facilities of the terminal, which handles kerosene, gasoline, gasoil, fuel oil, heavy naphtha/gas condensate, MTBE and aromatics.

CONTENTS

▪ HAZOP Study

STATUS

Completed August 2008

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Sarikhani (Project Manager) Tel: 88260901,6
Details of Projects

24th Project

South Pars Phases 15 & 16 – Detail Engineering – Offshore Platforms

CLIENT
POGC - SLT Engineering (SLTE) International – Rastar Farayand

DESCRIPTION
The project covers detailed engineering for South Pars Phases 15 & 16 offshore platforms. SLTE is responsible for engineering stage of the project.

CONTENTS
- HAZOP and HAZID Studies
- RAM/Criticality Assessment
- Dropped Objects Study
- Natural Ventilation Study
- ShipFire and Smoke/Gas Dispersion and Explosion Study
- Escape, Evacuation and Rescue Study
- Area Classification Schedule
- Risk Assessment
- Environmental Job Specification
- Waste Management Plan
- Noise Control Job Spec Emergency System Vulnerability Study
- Building Safety Functional Specification
- Building Blast and Fire Protection Report
- Passive Fire Protection Job Spec., Drawings & Details
- Fire Protection Job Specification and Firewater Report
- Firewater System UFD’s and P&ID’s
- Fire & Safety Equipment Layouts, Specification
- Escape Routes Layouts & EER Equipment Spec.

STATUS
Commenced November 2007

CONTACTS:

Project Manager: Dr. F. Nouraei

23th Project

Tabriz Oil Refinery

CLIENT
Tabriz Oil Refinery

DESCRIPTION
Hazard Identification and evaluation via audit, Checklist and HAZOP methods for Hydrocracker (ISOMAX) Unit at Tabriz Oil Refinery

CONTENTS
- HAZOP Study
- Audit/Checklist Analysis

STATUS
Completed November 2007

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Nouri Samie Tel: 22023944

Managing Director: Mr. Azimpouran Tel: 0411 4293850

Mr. Dakhili Tel: 0411 4293850
**22\(^{\text{TH}}\) Project**

**Lavan Refinery Upgrading & Revamping Project Offsite Utility & Storage Tanks Project (EPC) - Part 1**

**CLIENT**

LORC - Iran International General Contractor (IGC) – Rastar Farayand

**DESCRIPTION**

New utility units will be added to the Lavan Oil Refinery to cover the forthcoming demands of new process units. of Sour Water Treatment, Sour Gas Amine Treatment, Products Storage Tanks and Seawater Intake facilities.

**CONTENTS**

- HAZOP Study

**STATUS**

Commenced April 2007

**CONTACTS**

Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS**

Person-in-charge: Mr. Khonsari  
Tel: 22913440-5

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**21\(^{\text{TH}}\) Project**

**Reshadat Offshore Oilfield Renovation & Development Detailed Engineering**

**CLIENT**

Pazhouhesh Sanat Naft Co. (affiliated to SADRA)

**DESCRIPTION**

The project covers detailed engineering for renovation and development of Reshadat offshore oilfield at Persian Gulf. The project consists of building or renovating an offshore production complex comprising 4 platforms that accommodate wellhead, process and utility facilities.

**CONTENTS**

- Coarse HAZOP Study

**STATUS**

Commenced September 2007

**CONTACTS**

Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

**CLIENT CONTACTS**

Person-in-charge: Mr. Tajik  
Tel: 88575277
Details of Projects

20 TH Project  
Basic Design and Preparation of EPC Tender Documents for Lavan Refinery Revamping and Upgrading

CLIENT
Namvaran Engineering Company (NCE)

DESCRIPTION
In this project, two new units, namely atmospheric distillation and vacuum distillation units will be added to the existing facilities of Lavan Oil Refinery. The EPC contractor (NCE) will also revamp existing facilities to increase processing capacity.

CONTENTS
- HAZOP Study

STATUS
Commenced August 2007

CONTACTS:
Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge: Mr. Askari  
Tel: 22231620-24

19 TH Project  
Mobin Petrochemical Complex – Pars Petrochemical Port

CLIENT
NPC - Payandan-Tarh Andishan Consortium

DESCRIPTION
All product of Ethane Recovery Plant, 9th Olefins Plant, 10th Olefins Plant, 4th Aromatics Plant, 4th Methanol Plant, Ammonia / Urea Plant are transferred to Jetty for export, also some feeds are imported from Jetty to these plants. In this project whole P&ID’s related to off-shore and on-shore of petrochemical ports have been updated/generated by our team during several site visits.

CONTENTS
- As-Built P&ID

STATUS
Commenced December 2007-Finished February 2008

CONTACTS:
Project Manager: Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge: Mr. Moghadam  
Tel: 8869001-9
18TH Project  
Mobin Petrochemical Complex – Pars Petrochemical Port

CLIENT
NPC - Payand-Tarh Andishan consortium

DESCRIPTION
All product of Ethane Recovery Plant, 9th Olefins Plant, 10th Olefins Plant, 4th Aromatics Plant, 4th Methanol Plant, Ammonia / Urea Plant are transferred to Jetty for export, also some feeds are imported from Jetty to these plants. In this project all lines, facilities, equipment, Utilities and auxiliary services have been studied in HAZOP meeting by our members in attendance of representatives of Payand, Tarh Andishan, NPC and relevant Petrochemical Complexes.

CONTENTS
- HAZOP Study

STATUS
Commenced December 2007 - Finished February 2008

CONTACTS:
Project Manager: Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge: Mr. Moghadam  
Tel: 8869001-9

17TH Project  
Khesht Oilfield Development Detailed Engineering

CLIENT
ICOFC – OEID - Prazhouhesh Sanat Naft Co. (affiliated to SADRA)

DESCRIPTION
The project covers detailed engineering for development of Khesht oilfield. The project consists of building a typical production unit with its necessary utility units and offsite facilities.

CONTENTS
- HAZOP Study

STATUS
Commenced May 2007

CONTACTS:
Project Manager: Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge: Mr. Tajik  
Tel: 88575277
Details of Projects

16th Project  
Mobin Petrochemical Complex – Interconnecting Lines and Offsite Facilities

CLIENT
NPC - AZAAN Consortium

DESCRIPTION
The project covers detailed engineering of interconnecting lines and offsite facilities of Mobin Central Utility. This utility is commonly known as Mobin Petrochemical Complex because it is affiliated to National Petrochemical Company (NPC). This plant supplies CW & SW to other plants such as Desalination, 10th Olefins, 9th Olefins, 4th Aromatics, Ammonia/Urea, and Ethane Recovery.

CONTENTS
- HAZOP Study

STATUS
Commenced May 2007

CONTACTS:

Project Manager:  Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge:  Mr. Ghajar  
Tel: 88316435-7

15th Project  
Mobin Petrochemical Complex - Sea Water Intake and Cooling Water

CLIENT
NPC - SADRA

DESCRIPTION
The project covers detailed engineering of sea water intake and cooling water unit of Mobin Central Utility, commonly known as Mobin Petrochemical Complex because it is affiliated to National Petrochemical Company (NPC). This plant supplies CW & SW to other plants such as Desalination, 10th Olefins, 9th Olefins, 4th Aromatics, Ammonia/Urea, and Ethane Recovery.

CONTENTS
- HAZOP Study

STATUS
Completed February 2007

CONTACTS:

Project Manager:  Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge:  Mr. Ghaheri  
Tel: 88575868
Details of Projects

14\textsuperscript{th} Project

**Hazard Identification and Evaluation at Bandar Abbas Oil Refinery**

**CLIENT**

Bandar Abbas Oil Refinery

**DESCRIPTION**

Hazard Identification and evaluation via audit, Checklist and HAZOP methods for Hydrocracker (ISOMAX) Unit at Bandar Abbas Oil Refinery

**CONTENTS**

- HAZOP Study
- Audit/Checklist Analysis

**STATUS**

Completed

**CONTACTS:**

Project Manager: Mr. V. Hashemi

**CLIENT CONTACTS:**

Person-in-charge: Mr. Ghanizadeh
Managing Director: Mr. Shahriyari

Tel: 0761-5564181-5
Tel: 0761-5564181-5

13\textsuperscript{th} Project

**Gotvand Oil and Gas Pipeline**

**CLIENT**

NISOC - Tarh Andishan Consulting Engineers (Tehran)

**DESCRIPTION**

Development of integrity management program and emergency response plan for oil and gas pipelines crossing the lake upstream of Gotvand Dam

**CONTENTS**

- Hazard Identification
- Consequence Modelling
- Emergency Planning
- Developing an Integrity Management Program

**STATUS**

Commenced September 2006

**CONTACTS:**

Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

**CLIENT CONTACTS:**

Person-in-charge: Mr. Ghorbani
Managing Director: Dr. Arabshahi

Tel: 88824370
Tel: 88824370
12\textsuperscript{th} Project

\textbf{Emergency Planning for CNG Stations}

\textbf{CLIENT}

Greater Tehran Gas Co. (Tehran)

\textbf{DESCRIPTION}

Development of an emergency response plan for CNG Stations based on systematic design review and risk assessment

\textbf{CONTENTS}

- Hazard Identification
- Consequence Modelling
- Emergency Planning

\textbf{STATUS}

Commenced May 2006

\textbf{CONTACTS:}

Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

\textbf{CLIENT CONTACTS:}

Person-in-charge: Mr. Tali
Managing Director: Mr. Araghi

11\textsuperscript{th} Project

\textbf{Tabriz Petrochemical Plant – HIPS II Unit Detailed Engineering}

\textbf{CLIENT}

Pazhouhesh Sanat Naft (on behalf of Tabriz Petrochemical Co., Tabriz)

\textbf{DESCRIPTION}

The project covers detailed engineering of a licensed HIPS unit, comprising Rubber Grinding, Dissolution, Polymerization and Devolatilization. Our team was responsible for HAZOP study of the whole unit.

\textbf{CONTENTS}

- HAZOP study

\textbf{STATUS}

Commenced March 2006

\textbf{CONTACTS:}

Project Manager: Mr. V. Hashemi (for Rastar Farayand Consulting Eng.)

\textbf{CLIENT CONTACTS:}

Person-in-charge: Mr. A. Khoshkdahan
Managing Director: Mr. M. Kasaeian
Tel: 88575288
Tel: 88575288
**10th Project**

Fajr Jam Gas Treatment Plant – LPG Recovery Unit Detailed Engineering

**CLIENT**

Petro Sanat Maad (on behalf of Fajr Jam Gas Treatment Co., Assaluyeh)

**DESCRIPTION**

The project covers detailed engineering of an LPG recovery unit, comprising liquefaction, fractionation, polishing and drying, and storage sections. Our team was responsible for HAZOP study and qualitative risk assessment of the whole unit.

**CONTENTS**

- HAZOP study
- Qualitative Risk Assessment

**STATUS**

Commenced July 2005

**CONTACTS:**

- Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

**CLIENT CONTACTS:**

- Person-in-charge: Mr. H. Abdolkarimi
- Managing Director: Mr. Tahvidarzadeh
- Tel: 88803378
- Tel: 88803381

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**09th Project**

South Pars Development Project Phases 6, 7, 8 – Blast Analysis of GTG Control Building

**CLIENT**

Hirbodan Engineering Company

**DESCRIPTION**

The objective of the project was to establish structural design criteria for control building of gas turbine generators, based on the possibility of vapour cloud explosion. We performed a comprehensive study using PHAST for various scenarios and prepared the final report which covered, for each scenario, a complete record of blast overpressures, positive phase duration, and impacts in four basic directions.

**CONTENTS**

- Consequence Analysis
- Especially Baker-Strehlow Explosion Modelling

**STATUS**

Commenced August 2005

**CONTACTS:**

- Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

**CLIENT CONTACTS:**

- Person-in-charge: Mr. A.H. Modarres, Engineering Deputy
- Tel: 88063320-
07TH Project  Shiraz Petrochemical Complex

CLIENT
Shiraz Petrochemical Company

DESCRIPTION
The scope of work was included Urea, Soda Ash, Sodium Bicarbonate, Utility of Zone II units at Shiraz Petrochemical Complex.

CONTENTS
- HAZOP Study
- Fault-Tree Analysis

STATUS
Completed

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Aj, R&D Dept. Manager  Tel: 0711-2330091-9

06TH Project  Mansuri Oilfield Development Studies  Phase 1 - Temporary Facilities

CLIENT
Parsikan Iran Consulting Eng. (on behalf of PEDEC)

DESCRIPTION
Since Mansuri oilfield reservoirs are proved to support additional capacity, PEDEC has decided to expand production rate at Mansuri Production Unit near Ahwaz. For doing this, the client has planned installation of temporary equipment to be used for increased production in the period that new facilities are to be built. This project covers related safety engineering services.

CONTENTS
- HAZID Study
- HAZOP Study
- Preparation of Safety Philosophy
- Preparation of a List of HSE Rules and Regulations

STATUS
Completed March 2004

CONTACTS:
Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:
Person-in-charge: Mr. Sayyar, Project Manager  Tel: 021-8775287
Managing Director: Mr. Mohri  Tel: 021-8778689
### 05th Project

**Mansuri Oilfield Development Studies - Phase 2 - New Facilities**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Namvaran Consultants (on behalf of PEDEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>Since Mansuri oilfield reservoirs are proved to support additional capacity, PEDEC has decided to expand production rate at Mansuri Production Unit near Ahwaz. This project was concerned with the specialized safety engineering services related to the new installations proposed.</td>
</tr>
</tbody>
</table>
| CONTENTS | - HAZID Study  
- HAZOP Study  
- RAM Study  
- Safety Analysis |
| STATUS | Completed March 2004 |
| CONTACTS: | 
| Project Manager: | Dr. F. Nouraei (for Rastar Farayand Consulting Eng.) |
| CLIENT CONTACTS: | 
| Person-in-charge: | Dr. Aghabalazadeh, Project Manager |
| Managing Director: | Mr. Ardesten |
| Managing Director: | Tel: 021-8775287  
| Managing Director: | Tel: 021-8778689 |

### 04th Project

**Razi Petrochemical Complex**

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Razi Petrochemical Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>Hazard Identification and evaluation via audit, Checklist, HAZOP and FTA methods for three Gas Sweetening Units at Razi Petrochemical Complex.</td>
</tr>
</tbody>
</table>
| CONTENTS | - HAZOP Study  
- Audit/Checklist Analysis  
- Fault-Tree Analysis |
| STATUS | Completed |
| CONTACTS: | 
| Project Manager: | Mr. V. Hashemi |
| CLIENT CONTACTS: | 
| Person-in-charge: | Mr. Poorsaadat, R&D Dept. Manager |
| Managing Director: | Mr. Dashti |
| Managing Director: | Tel: 06522662712  
| Managing Director: | Tel: 06522662712 |
Details of Projects

03th Project

Arak Petrochemical Complex

CLIENT
Arak Petrochemical Company

DESCRIPTION
Hazard Identification and evaluation via audit, Checklist, HAZOP and FTA methods for the Ethylene Oxide Unit at Arak Petrochemical Complex

CONTENTS
- HAZOP Study
- Audit/Checklist Analysis
- Fault-Tree Analysis

STATUS
Completed

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Latifi, R&D Dept. Manager
Managing Director: Mr. Ghamsari

Tel: 08612287011-21

02th Project

Khorasan Petrochemical Complex

CLIENT
Khorasan Petrochemical Company

DESCRIPTION
Comprehensive HAZOP studies and failure analysis were performed on 9 different units within the complex, namely: Ammonia, Urea and Melamine Production Units and Steam Generation, Instrument Air, Water Treatment, Wastewater Treatment, and Nitrogen plants and Cooling Towers.

CONTENTS
- HAZOP Study
- Fault-Tree Analysis

STATUS
Completed

CONTACTS:
Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:
Person-in-charge: Mr. Aghanaseri
Managing Director: Mr. Rastegarpour

Tel: 05842234560-5
 Tel: 05842234560-5
## 01th Project

### CLIENT

Various; including NIOC, NIGC, and NPC.

### DESCRIPTION

A range of safety engineering activities (listed below), including dispersion modelling, fire & explosion study, probabilistic safety analysis (PSA), fire protection and safety system design, contribution to ESD and F&G system structure, preparation of procurement documentation, various safety drawings, specifications, datasheets, and technical design instructions.

### CONTENTS

- Hazardous Source List
- ESD Block Diagram
- Fire-Fighting Layout/P&ID
- Safety & Fire-Fighting Equipment Datasheets
- Technical Bid Evaluation
- Fire & Gas Detection Layout
- Escape Routes Layout
- Fireproofing Study
- Calculation Notes (Deluge system, sprinklers, spray nozzles, etc.)
- Reliability Analysis
- Safety Analysis Report (SAR)
- Gas Dispersion Study
- Fire-Fighting Equipment Specification
- Safety Equipment MTO & MR
- Fire & Explosion Study
- Fire Station Design
- First-Aid Kit Specification
- Safety Engineering Procedures

### STATUS

Completed

### CONTACTS:

- Safety Engineering Dept. Head: Dr. F. Nouraei (for Nargan Consulting Engineers, NCE)
- NCE Engineering Manager: Mr. F. Keyhani

### CLIENT CONTACTS:
Chapter 4

Photo Gallery
Photo Gallery
Photo Gallery

Cryogenic Air Separation Plant

Training Center
Photo Gallery

PIPELINE HAZOP & HAZID WORKSHOPS

HAZOP & SIL Training Course for ILPC