



AIPCECO PROFILE

November 2022

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Chapter 1

Preface

After 14 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 Modelling 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 22 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.

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 Modelling and Analysis
 - *Dispersion and Consequence Modelling*
 - *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*

- *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 490 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
- Establishing 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 20 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.

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 establishing in AIPCECO for providing services in this field and performing the Functional Safety projects in industrial scales.

F. Establishing 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>

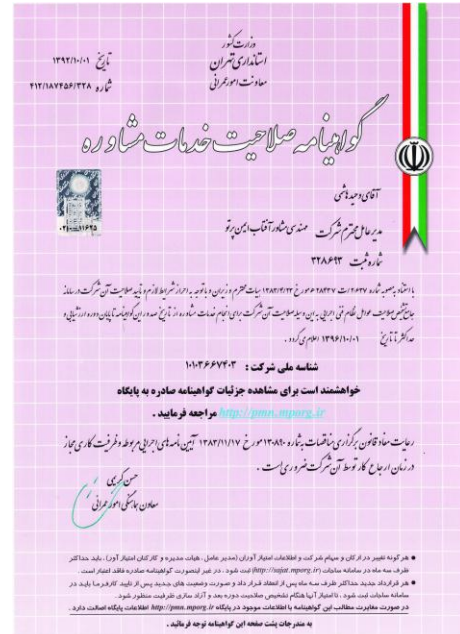
LinkedIn: <https://www.linkedin.com/company/aipceco>

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 defence.

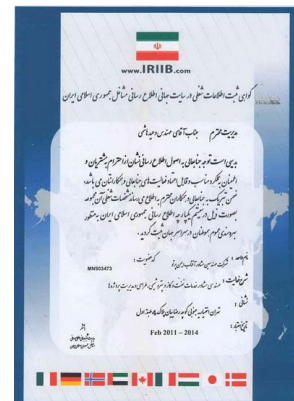
This certificate is an official approval issued by Vice-Presidency for Strategic Planning and Supervision, the highest governmental section supervising the performance of Iranian contractors, to indicate companies' level and ranking in any industrial field. AIPCECO succeeded to gain ranking 3 of qualification 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.

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.

AIPCECO



Founders of the Company-Photo of 2015

Chairman of the Board

Previous
Member of the Board

Managing Director

Chapter 2

Manager's statement

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.



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:

| | |
|--|-----------|
| Aftab Imen Parto Consulting Engineering Co. (AIPCE) <i>Co-founder and Managing Director</i> | 2008+ |
| Rastar Farayand Consulting Engineers Co. (RFCE) <i>Co-founder and Project Manager</i> | 2004-2008 |
| Center for Process design, Safety & Loss prevention (CPSL) <i>Project Manager</i> | 2001+ |
| Energy Industry Engineering & Design Co. (EIED) <i>Process Engineer</i> | 1999-2000 |

Summary:

Contract Focal Point, Technical Advisor, Project Manager, HAZOP/HAZID/SIL Leader,
Process Safety Expert in more than **490** Projects.

8 Articles in Conferences

More than 70 Professional Trainings for HAZOP, HAZID, SIL, PSM



Davood Rashtchian

Education:

| | | |
|----------------------------|------|-----------------------|
| Ph.D. Chemical Engineering | 1988 | UMIST (UK) |
| M.Sc. Chemical Engineering | 1985 | UMIST (UK) |
| B.Sc. Chemical Engineering | 1976 | Sharif Univ. of Tech. |

Work Experience:

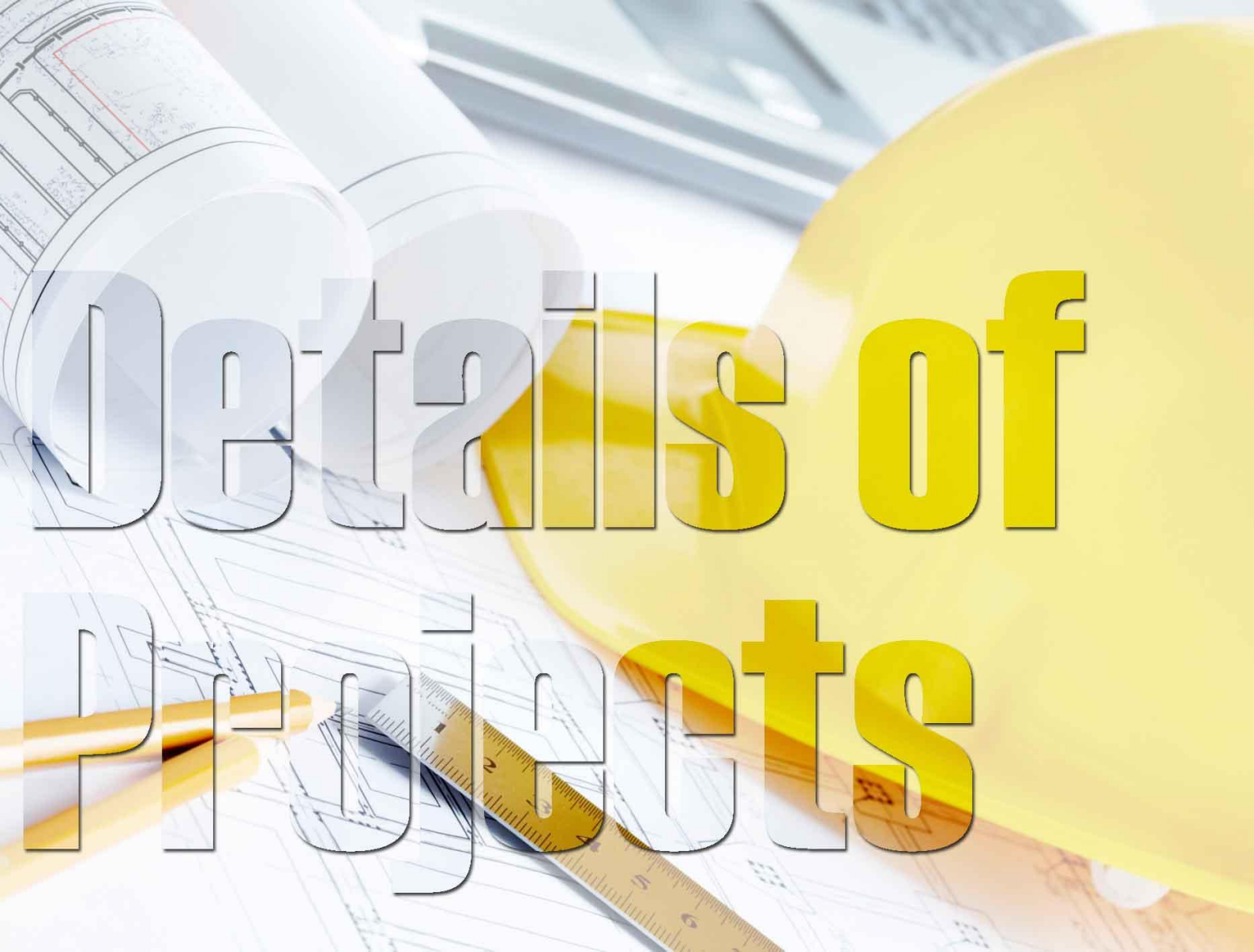
| | | |
|---------------------------------------|------------------|---------------------------------------|
| Aftab Imen Parto Consulting Engineers | 2008+ | Co-founder and Chairman |
| Rastar Farayand Consulting Engineers | 2003-8 | Co-founder and Chairman |
| Professor, Chem. & Petr. Eng. Dept. | - | Sharif Univ. of Tech. |
| Chem. & Petr. Eng. Dept. | 1993-97, 2006-10 | Sharif Univ. of Tech., Chairman |
| Chem. & Petr. Eng. Dept. | 1988-present | Sharif Univ. of Tech., Faculty Member |

Projects:

Project Manager/Supervisor in more than **80** 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)
 Editorial Board, Iranian J. of Chem. Engg., IACHE and Iranian J. of Chem. and Chem. Engg.



Chapter 3

Details of AIPCECO projects

Based on a 22 year experiences of our personnel (carrying out more than 490 engineering projects in more than 600 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.

New Projects

-Detailed and description of below projects will be added to Company Profile in next revision-

| | | |
|-----|---|---|
| 481 | HAZOP Study for Off-site and Utility Unit Packages, Interconnecting and Raw Water Pump Station of Gachsaran Petrochemical Complex | Panah Sanat Part Company |
| 480 | HAZID Study for Siahmakan and Gachsaran Compressor Stations of West Ethylene Pipeline Project | Oil Turbo Compressor Construction Company (OTCC) |
| 479 | HAZOP Study for Hydrogen Peroxide Unit of Kimiya Petro Company | Petro Process Phidar Company |
| 478 | HAZOP Study for BZN2 Catalyst Production Unit Located in Kermanshah Site | Pouya Pajouhesh Bakhtar Company |
| 477 | HAZOP and SIL Studies For EO Purification Unit Packages of Maroon Project | Petrochemical Industries Design and Engineering Company (PIDEC) |
| 476 | MOC-HAZOP Study for New Transferring Condensate line from D-1101&D1301 to Demathanizer Towers | Palayesh Parsian Sepehr Company |
| 475 | HAZOP Study for Sulfur Solidification Package of NGL3100 Project | Enerchimi Engineering Company |
| 474 | HAZOP Study for Flare Package of Olefin Plant of Jam Petrochemical Complex | Tehran Javan Consulting Engineers Company |
| 473 | Fireproofing study for Jet Fire scenario of Bushehr Petrochemical MEG project | Chagalesh-Enerchimi-Steam Joint Venture |
| 472 | HAZOP Study For Butane and Propane Loading Arms of Persian Gulf Bidboland Gas Refining | Persian Gulf Bidboland Gas Refining Company |
| 471 | HAZOP, HAZID and SIL Studies for Terminal Port Project of Farasakou Assaluyeh Tanks | Hampa Energy Engineering and Design Company (HEDCO) |
| 470 | HAZOP Study Review and Safety Study for Methanol Production Unit of Middle East Kimiaye Pars Company | Middle East Kimiaye Pars Company |
| 469 | Hazard Identification and Consequence Analysis of VNN505 Regulator (Size: 1", 2", 3" & 4") | Venan Engineering and Industrial Company |
| 468 | HAZOP, HAZID and SIL Studies for Operation-Oriented Plan to Increase and Maintain the Production of 27 Selected Tanks of Balarud | Petrogas Jahan Engineering Company |
| 467 | HAZOP and SIL Studies for "Ethylene Oxide Cooling Package" Project of Maroon Petrochemical Complex | Tajhiz Arg Parsian Company (TAPCO) |
| 466 | HAZID Study for "Up-Grading" Project of Tabriz Oil Refinery Company Products (Licensor Part) | Sazeh Consultants Engineering and Construction Company |
| 465 | HAZOP, HAZID and QRA Studies for 30" Pipeline of Maroon Petrochemical Complex | Rampco Group |
| 464 | HAZOP and SIL Studies For Ammonia Storage Tank of Zanjan Petrochemical Complex | Petro Kimia Arvin Company |
| 463 | HAZOP and SIL Studies For N2, Chemical Injection, Flare, and Deaerator Packages of South Azadegan Oil Field Development Phase 1 of "CTEP" Project | Enerchimi Engineering Company |
| 462 | Consequence Modeling Study For Compressor and Gas Dehydration Station of "Pazanan 01" Project | Petro Sazeh Mobin Engineering and Development Company |
| 461 | Consequence Modeling and QRA Studies for Wellhead Facilities of "Jurassic" Project of Masjed Soleyman | Tarh Andishan Consulting Engineering Company |

460th Project

LP Compressor Station and Compressor Package (GTC CO., LTD) of Gachsaran I & II Production Units

CLIENT

MAROON KARAN TECHNICAL AND ENGINEERING COMPANY

DESCRIPTION

In this project, outlet gases of production tanks of Gachsaran 1 and 2 production units are currently routed to the flare system. NISOC intends to establish two Gas Compression station in the vicinity of production tanks of both the Gachsaran 1 and 2 production units in order to prevent burning 3.45 MMSCFD of these mentioned rich gases. The compressed gases in each of these compression units will be routed to nearby gas compressor stations (LPCS-1 and LPCS-2) for further compression.

Main parts of compressor are consisting of Process, Sealing, Lube oil System.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced May 2022

CONTACTS:

Project Manager: Mr. Vahid hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Nowrozi Tel: 09122383783

458th Project

Mansour Abad Oil Field Development

CLIENT

Meam Team Construction Company

DESCRIPTION

National Iranian South Oil Company (NISOC) intends to develop a project to maintain and increase production of Mansour Abad oil field located at north east of Behbahan in Khuzestan province in south of Iran.

The purpose of this project is to establish required facilities to produce, gather, separate and transfer oil and gas of the Mansur Abad oil field to Gachsaran Production Unit 4 and Gachsaran Gas Compressor Station. In order to meet above mentioned purpose, three individual surface facilities which are defined as Booster Cluster-A (BCA), Booster Cluster-B (BCB) and Booster Cluster-C (BCC) will be established with maximum oil capacity of 25,000, 12,000 and 26,000 barrels per day respectively. Equipment includes: Wellhead facilities, Manifold, 2 phase separator, oil transferring pump, pig launcher and receiver, elevated potable water tank, fire water system, closed drain drum, fuel gas K.O drum, flare package.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced April 2021

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Mirtaheri Tel: 09121061140

457th Project

"Refinery's Feed and Products Storage Tank" of Mokran Petro Refinery Company

CLIENT

Namvaran Pazhouhesh va Tose-a Company

DESCRIPTION

Mokran Petro Refinery Company is to receive the Iranian Heavy crude and SOROUGH / NOWRUZ crude oil as feed streams and its capacity will be 300,000 BPSD. This project also includes all Products Storage Tanks.

CONTENTS

- | | |
|--|---------------------------------|
| ▪ Hazard and Operability Study (HAZOP) | ▪ Hazard Identification (HAZID) |
| ▪ Quantitative Risk Analysis | ▪ SIL |

STATUS

Commenced February 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Karimi Tel: 09111767890

456th Project

"Up-Grading" Project of Tabriz Oil Refinery Company Products (Non-Licensor Part)

CLIENT

Sazeh Consultants Company

DESCRIPTION

This project is consisting of study about hazard potential of Tabriz oil refining co. by HAZID Method at basic design phase. The study was outlined in relevant "Tabriz Oil Refining Company product up-grading project", which consist of the seven Licenser units, four non-licensor unit and utilities. The scope of this study is consisting of utilities and non-licensor units as mentioned below:

- LPG Recovery Unit
- Flexoil Residue Unit
- Sour Water Stripping Unit
- Fuel gas & natural gas and flare
- Tankage Area
- N2 & Air Packages
- Steam & Power Generation
- Waste Water Treatment, Water Treatment & Cooling Water

Buildings

CONTENTS

- HAZID Study Report

STATUS

Commenced March 2022

CONTACTS:

Project Manager: Parnian Saeedi

CLIENT CONTACTS:

Person-in-charge: MR. Salehi Tel: 09128977274

455th Project

“Styrene Loading Pump” of “Takhte Jamshid Pars Assaluyeh Petrochemical Complex”

CLIENT

Takhte Jamshid Pars Assaluyeh Petrochemical Company

DESCRIPTION

TAKHT-E-JAMSHID PARS ASSALUYEH Petrochemical Company (TJPAPC) is designed to produce 50,000 t/h General Purpose Polystyrene from styrene monomer. TJPAPC intends to supply its required styrene monomer feed from PARS Petrochemical Company. For this purpose, TJPAPC wants to provide transfer pipelines (supply/circulation) between the two companies and pumps for fluid transfer.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced February 2022

CONTACTS:

Project Manager: Mr. Vahid Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Barzamini Tel: 09111767890

454th Project

Control Panel of the MPU Unit

CLIENT

Sina Control Company

DESCRIPTION

Methane Purification (MPU) is designed to purify methane gas from the MEG unit of Bushehr Petrochemical Company. SIL Verification of required SIL for reaching acceptable risk of hazardous scenario related to UCP panel of Methane Purification Unit has been carried out.

CONTENTS

- SIL Verification Study

STATUS

Commenced April 2022

CONTACTS:

Project Manager: Mr. Vahid Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zare Tel: 07132321055

453rd Project

Sarcheshmeh and Khatoonabad Effluent Treatment Plant

CLIENT

Tara Engineering Company

DESCRIPTION

This project includes the treatment plants of Sulfuric Acid Factories of Sarcheshmeh and Khatoonabad Copper Complexes located in Kerman Province. The input feed capacity in the acid wastewater treatment plant in Sarcheshmeh and Khatoonabad Copper Complexes is 466560 and 233280 Cubic Meters Per Year, respectively. The Acid effluent is transferred to Sarcheshmeh and Khatoonabad treatment plants through two pipelines of 10" and 4", respectively. The Khatoonabad project adopts the treatment process of Sulfuration + Neutralization + Electrochemistry + Hardness Removal + Membrane and the Sarcheshmeh project adopts the treatment process of Sulfuration + Neutralization.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced February 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Ms. Azar Tel: 09352476063

452nd Project

Light Crude Oil Pipeline from Korait Camp to Omidiyeh Pump Station

CLIENT

Scetiran Consulting Engineers

DESCRIPTION

This project located in Khuzestan & Bushehr province, includes 96 km of a 30" light oil pipeline between KOREYT CAMP and OMIDIYEH pump stations. After an increase in pressure in the KAROON WEST pump station, the light oil of YADAVARAN and DAARKHOVEIN oil fields will be transferred through a 30" pipeline from the pump station in KAROON WEST to the area of KOREYT CAMP and, then, to the OMIDIYEH pump station. Process equipment includes Transferring Gas Pipeline and LBVs.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Quantitative Risk Analysis
- Consequence Modeling
- Fire

STATUS

Commenced February 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Boloori Tel: 09122026929

451st Project

New Goreh-B Pump Station and Goreh-Kharg Pipeline

CLIENT

Pars Consulting Engineering Group

DESCRIPTION

Petroleum Engineering & Development Company (PEDEC) intends to construct a new pump station in Goreh B area located in Bushehr Province and a 82.6 km long transmission pipeline 40.3 km long onshore and 42.3 km long offshore pipeline) to transport about 1 MMBPD stabilized crude oil of West Karun oilfields from Goreh B new pump station to Kharg Export terminal. Process and Utility equipment includes, Pump Station, Pig Launcher and Receiver, Corrosion Inhibitor Package, Metering Package, Relief Tank, Closed Drain Drum, Elevated water Tank, Oily Water Sump and Diesel Tank.

CONTENTS

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

STATUS

Commenced February 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Merati Tel: 09121875006

450th Project

Wellhead and Manifold Facilities of Toos Gas Field Development

CLIENT

Petro Sahel Ofogh Kish Company (PESOK)

DESCRIPTION

TOOS Gas Field is located 100 km northeast of Mashhad and 60 km southwest of Sarakhs. This field is located in south of Khangiran and Gonbadli. The objective of the work is development of TOOS Gas Field in order to produce overall 5MMSCMD of raw gas via drilling of 3 new wells as well as making "TOOS-1 well" as a production well. The production of the above-mentioned 4 wells will be conveyed to "Gathering System (Manifold)" via 4 dedicated 6" flowlines, subsequently mixture will be routed to "Central Measurement Facilities (CMF)" via a 16" pipeline as trunk-line. Process equipment includes, Transferring Gas Pipeline, Pig Launcher, Pig Receiver, Sweet Gas Distribution System, Methanol Injection Package, Corrosion Inhibitor Dosing Package, Test Separator Facilities, Drum, Flare Package and Burn Pit Package.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced January 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mrs. Yahyapour Tel: 09057177899

449th Project

"C3+ Transferring from Tank to Outlet Cracked Gas Compressor V Facilities"

CLIENT

Amir Kabir Petrochemical Company (AKPC)

DESCRIPTION

Amir Kabir Petrochemical, located in the Mahshahr, Khuzestan province, Iran, intends to inject the liquid contents of the C3 + spherical tank by two series pump stage 5 of cracked Gas Compressor inlet (39 barg) instead of injection to stage 3 of cracked Gas Compressor inlet by one centrifugal pump (~12 barg).

CONTENTS

- MOC-HAZOP Study

STATUS

Commenced January 2022

CONTACTS:

Project Manager: Vahid Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Sakizadeh Tel: 09387886962

448th Project

Sour Feed Gas Pipeline-From NGL-1000 to BBGII (Tie-in L005) (Early Production Stage)

CLIENT

Persian Gulf Bid Boland Gas Refinery Company

DESCRIPTION

For Early Production Stage, Persian Gulf Bid Boland Gas Refinery Company has decided to supply his feed from NGL-1000 by construction new 20 inches pipeline from NGL 1000 to Tie-in L005 of Persian Gulf Bid Boland Gas Refinery Company.

CONTENTS

- MOC-HAZOP Study

STATUS

Commenced January 2021

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Valadkhani Tel: 09123056562

447th Project

Methanol Buffer Tank and Transferring Facilities of Mokran Petrochemical Town

CLIENT

Omid Pars Oil and Gas Industries Energy Development Consortium Company

DESCRIPTION

Makran Abniri Co. in Chabahar Free Trade-Industrial Zone intends to design two methanol floating roof tanks with a volume of 15000 cubic meters as a buffer tank that receives methanol from 6 upstream plants through the 30-inch pipeline and transports to downstream through the 24-inch pipeline (export tanks in Shahid Beheshti port of Chabahar). Process equipment includes methanol storage tanks, pump station, pig Launcher, Slop Drum, nitrogen and instrument air package, and oily water basin.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Consequence Modeling
- Safety Integrity Level (SIL)
- Quantitative Risk Assessment

STATUS

Commenced November 2021

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rahmati Tel: 09171120236

446th Project

DEG New Pipeline of Khuzestan Petrochemical Complex

CLIENT

Khuzestan Petrochemical Complex

DESCRIPTION

Khuzestan Petrochemical Complex in Petrochemical Special Economic Zone intends to design and construct pipeline for transferring DEG from Import/ Export Storage Tanks to Jetty No. P3 through EXIR SHIMI to Jetty No. P3 pipeline.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced January 2022

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zarepour Tel: 06152170583

445th Project

PDH, PP & UT-OF Units of Mehr Petro Kimia Petrochemical Complex

CLIENT

Namvaran Consulting Engineers (NCE)

DESCRIPTION

Mehr Petro Kimia Petrochemical Complex is located in Phase 2 of Assaluyeh Petrochemical. This complex has 2 process units PDH and PP, which is the final product that can be solid PP in different grades. Also, some Utility units are located on the site of this complex. Other required utilities are obtained from Damavand Petrochemical.

The single feed line (propane) is supplied from the third and fifth refineries. The length of the feed line is about 16 km. The Flare unit is located north of the country road. The design of the route from the north of the road to the location of the Stack (about 2.5 km) is in the description. Line design and utilities are also part of the service.

CONTENTS

- MOC-HAZOP Study

STATUS

Commenced December 2021

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zarineh Kafsh Tel: 09123880527

444th Project

Construction of phase 2 and completion of phase 1 of Ilam Gas Refinery

CLIENT

Jahanpars Engineering and Construction Company

DESCRIPTION

ILAM Gas Treating Plant is located in 25 km Northwest of Ilam city and 12 km West of Chavar county. This plant refines gas obtained from Tange Bijar and Kamankuh gas fields to provide required fuel gas of Ilam Province and western provinces, and also to recover ethane and heavier hydrocarbons (including C3+ and C5+ condensates) as a feed stock for ILAM Petrochemical Plant.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)
- Consequence Modeling (CM)
- Hazard Identification (HAZID)
- Quantitative Risk Analysis (QRA)

STATUS

Commenced January 2022

CONTACTS:

Project Manager: Mr. Khoshbazzm

CLIENT CONTACTS:

Person-in-charge Mr. Barari Tel: 02127624371

443rd Project

Metering, Waste Water and Cooling Tower Packages for Bushehr Petrochemical Complex

CLIENT

Jahanpars Engineering and Construction Company

DESCRIPTION

The scope of HAZOP studies of this project includes Metering system packages, Wastewater Treatment system and Cooling Tower system of Bushehr Petrochemical Complex.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)
- Hazard Identification Study (HAZID)

STATUS

Commenced December 2021

CONTACTS:

Project Manager: Mr. Vahid Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Eghbaltpour Tel: 09398999177

442nd Project

MOC-HAZOP Study of Main Process of Olefin Unit & HAZOP and SIL Studies for Ten Packages Of Olefin Project of Bushehr Petrochemical Complex

CLIENT

Sazeh Consultants Engineering and Construction Company

DESCRIPTION

The scope of work of this project is OLEFIN unit of Bushehr Petrochemical Complex. This project is in the basic phase. Package intended for this unit include Flare (FL-701 & 606), BFW Polishing Unit (PK-601), Steam Turbine (STP-201 & 602), Off Gas Expander (C-401), Compressor (C-302 & 701), Waste Gas Recovery (C-601), Decoke Air Compressor Package (C-120), and Hydrogen Purification Unit (PK-401).

CONTENTS

- Hazard and Operability Study (HAZOP)
- MOC-HAZOP Study
- Safety Integrity Level (SIL)

STATUS

Commenced December 2021

CONTACTS:

Project Manager: Mr. Hashemi and Mr. Abiri

CLIENT CONTACTS:

Person-in-charge Mr. Arian Mashayekhi Tel: 09123453997

441st Project

Bushehr HDPE Plant of Petrochemical Complex

CLIENT

Sazeh Consultants Engineering and Construction Company

DESCRIPTION

The scope of work of this project is HDPE unit of Bushehr Petrochemical Complex with a capacity of 310 (KTPA) kilotons per year. This project is in the basic phase. Equipment and units intended for this unit include catalyst production unit, storage and preparation of catalyst and activator solution (Activator), catalyst and catalyst injection and activator, polymer production unit (feed and reactors), separation units (flash drums), Centrifuges and dryers), powder and pellet storage silos and hoppers, pellet production unit (extruders and additive injection systems), black production equipment, hexane recycling and purification unit, butane recycling unit, light polymer separation unit and utility equipment unit.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS

Commenced December 2021

CONTACTS:

Project Manager: Mr. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Salek Moghadam Tel: 09122455674

440th Project

"Construction of methanol storage tanks and related facilities" project in Shahid Beheshti Port of Chabahar

CLIENT

RAMCO Group

DESCRIPTION

Makran Abniri Co. in Chabahar Free Trade-Industrial Zone intends to design four methanol tanks with a volume of 59822 cubic meters, which receive methanol from above through a 24-inch pipeline and be export by ships through loading arm. Process equipment includes Methanol Storage Tanks, Pump Station, Pig Receiver, Drum Slope and Loading Arm

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Consequence Modeling
- Safety Integrity Level (SIL)
- Quantitative Risk Analysis

STATUS

Commenced November 2021

CONTACTS:

Project Manager: Mr. Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Keramati Zadeh Tel: 09128031840

439th Project

SRU UNIT OF NGL-3100 Project

CLIENT

Enerchimi Company

DESCRIPTION

The present project includes NGL-3100 sulfur recovery unit with a production capacity of 347 tons per day of elemental sulfur. The purpose of the sulfur recovery unit is to remove hydrogen sulfide gas as a toxic and polluting gas from the acid gas stream.

CONTENTS

- HAZOP Study
- SIL Study
- HAZID Study

STATUS

Final at December 2021

CONTACTS:

Project Manager: Mr. Sadra Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Esmaeilpour Tel: 09125274249

438th Project

Wastewater Treatment Units of Tabriz Oil Refinery

CLIENT

Falat Sanat Ideh Company

DESCRIPTION

The aim of project is process hazard identification through HAZOP Study technique for Waste Water Treatment Unit of TORC. During HAZOP study, hazards that lead to process deviations during normal operation, start-up, shutdown and maintenance are identified.

CONTENTS

- HAZOP Study

STATUS

Final at December 2021

CONTACTS:

Project Manager: Mr. Sadra Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Soltani Tel: 09126150150

437th Project

Hydrogen Gas Production Unit of Behshahr Industrial Company

CLIENT

Behshahr Industrial Company

DESCRIPTION

This project is consisting of study about hazard potential of Behshahr Industrial Company by HAZID and HAZOP Methods. Behshahr Industrial Company located in 8th K.M of Fath Highway which is the first and largest producer of all kinds of edible oils and fats in Iran, founded in 1951, including hydrogenated, partially hydrogenated, liquid, frying, confectionery, bakery and cooking oils.
Gas plant 1700 or Mahler hydrogen production plant which is scope of this project is designed to produce pure hydrogen gas from natural gas by PSA technology which is picked up at the battery limit.

CONTENTS

- HAZID Study Report
- HAZOP Study Report

STATUS

Commenced November 2021

CONTACTS:

Project Manager: Mrs. Parnian Saeedi/Mrs. Elham Rezaei

CLIENT CONTACTS:

Person-in-charge: Mr. Yaghmorlu Tel: 09126359526

436th Project

Bangestan 8" Pipeline from Ramin Booster Cluster to Ahvaz II

CLIENT

Tarh Andishan Consulting Engineering Company

DESCRIPTION

The National Iranian South Oil Company (NISOC) has defined a project under the title "Construction of booster cluster and E-shaped Ramin Bangestan reservoir transmission lines" in order to increase the oil production of the Ramin Bangestan reservoir. Considering the oil production plan from the Ramin reservoir in Bangestan and the possibility of increasing it, as well as the processing and sending of Asmari oil and gas from the Asmari reservoir in the Ramin field, it is necessary to build a booster cluster and oil and gas transmission lines. Therefore, the study of choosing the best location for the construction of the booster cluster will be carried out from a technical and economic point of view in such a way that it is possible to transfer the oil to the second stage of the separation of Ahvaz 2 operation unit.

The main purpose of this project is to assess the risk, determine the individual and societal risk limits of the Bangestan and Asmari oil pipelines from Booster Ramin to the Ahvaz 2 operation unit, and provide the necessary suggestions (if needed) to reduce the risk to acceptable risk levels. The main objectives of QRA of this project are:

- Calculation of individual and societal risk in the current situation.
- Comparing the obtained risks with international criteria for risk assessment.

CONTENTS

- Quantitative Risk Analysis

STATUS

Commenced April 2022

CONTACTS:

Project Manager: Mr. Javad Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Roudsari Tel: 09191239726

435th Project

Sulabedar Oil Field Development Project

CLIENT

Maroon Karan Technical and Engineering Company

DESCRIPTION

National Iranian South Oil Company (NISOC) plans to fulfill an integrated project which includes several sub-projects to maintain and increase its production up to 10000 BPD of "SULABEDAR" oilfield which is located in Gachsaran Area. The Project Consist of Several Sub-Project as Below:

- Wellhead Facility
- Construction Oil Booster Cluster and Separation Unit for Sulabdar Oil Field (BCSR)
- Construction 8" Gas Transmission UG Pipeline from Sulabdar to Bibi Hakimeh (GPL8)

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS

CONTACTS:

Project Manager: Ms. Maryam Pourhasani

CLIENT CONTACTS:

Person-in-charge: Mr. Rezaei Tel: 09122091242

434th Project

Radiation Calculation for Liquid Burn Pit Package in Pipelines & Mahshahr Facilities of Persian Gulf Bid Boland Gas Treating Project

CLIENT

Persian Gulf Bidboland Gas Refining Company

DESCRIPTION

Mahshahr storage facility is located at Mahshahr port in Khuzestan province in the South Western part of Iran. The purpose of this document is Consequence Modelling for the burn pit in Mahshahr Storage Facilities. The aim of consequence modeling is the layout and partitioning of the plant. The Scope of Study consists of the burn pit of Mahshahr Storage Facilities.

CONTENTS

- Consequence Modeling

STATUS

Commenced October 2021

CONTACTS:

Project Manager: Mr. Mollataheri

CLIENT CONTACTS:

Person-in-charge: Dr. Valadkhani Tel: 09123056562

433rd Project

Bouali Sina Petrochemical Company H-8003 & H-8001 Heater Packages

CLIENT

Fateh Sanat Kimia

DESCRIPTION

This unit contains two nearly similar Fired Heaters H-8001 and H-8003 which operate in forced draft mode but are also capable of operating in natural draft mode along with their facilities. Each fired heater facility includes Fuel system, various inlet streams such as MPS, air, flue gas and C8+ and equipment like FD Fan, ID Fan, Air Preheater, Air Steam Preheater and Air Intake. These fired heaters are considered as reboilers of T-8001 and T-8003. Air enters the air stack at 30 °C and is pushed by FD fan towards the steam and Flue Gas preheaters and enters the fired heater at 276 °C combust Fuel Gas which enters at ambient temperature. The effluent flue gas from preheater returns to the fired heater by the ID fan. Various effluent streams from the rerun column enter the fired heater, some for getting hot and the main stream for evaporation. Burner arrangements are different for these two fired heaters. In order to recover heat, LPS is also produced in the fired heaters. UV and Flame Ionization Detector are used for the main flame and for burners' pilots, respectively.

CONTENTS

- Hazard and Operability Study (HAZOP)
- SIL Assessment Study
- SIL Verification Study

STATUS

Commenced September-October 2021

CONTACTS:

Project Manager: Mr. F. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Rezaasl Tel:

432nd Project

Waste Water Treating of South Tehran Waste Water and Transferring to Tehran Oil Refinery Company Area"

CLIENT

Sazehaye Abi Company

DESCRIPTION

The purpose of tertiary waste water treatment plant is the recovery of south Tehran sewage treatment plant effluent. Treated water is intended to be used as a source of water for Tehran refinery industrial and irrigation water. South Tehran treated effluent enters to the Tehran refinery battery limit for complete treatment to meet industrial water predefined standards. This plant consists of physical, chemical, and biological treatment units for Tehran sewage treatment plant effluent and produced sludge through the plant

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced October 2021

CONTACTS:

Project Manager: Mr. Rouhi Poor

CLIENT CONTACTS:

Person-in-charge Mr. Shahbazi Tel: 02188077077

431st Project

Natural Gas and Hydrogen Pipeline from Jam and Mobin Petrochemical To MPU of Farsa Chimie Company

CLIENT

Tarh Fan Gostar Danoob

DESCRIPTION

The aim of project is process hazard identification through HAZOP Study technique for Natural Gas and Hydrogen Pipeline from Jam and Mobin Petrochemical to MPU of Farsa Chimie Company

CONTENTS

- HAZOP

STATUS

Final at August 2021

CONTACTS:

Project Manager: Mr.S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Ms.Khandaghi Tel:

429th Project

EDC/VCM, S-PVC, E-PVC, SW, Sulfuric Acid and CF Units

CLIENT

Arvand Petrochemical Company

DESCRIPTION

Arvand Petrochemical Co. is located at site 3 of Bandar Imam Petrochemical Special Economic Zone, on the northern coast of the Persian Gulf. This complex is composed of Chlor alkali (CA), ethylene dichloride (EDC), vinyl chloride monomer (VCM) and polyvinyl chloride (PVC) units. Utility units consist of air separation unit (ASU), CF units, cooling towers, Plant air and a salt washing unit. The APC complex products are NaOH 50%, chlorine gas, Sodium hypochlorite, EDC, E-PVC and S-PVC. HAZOP study has been considered for EDC/VCM, S-PVC, E-PVC, SW, Sulfuric Acid and CF to this project.

EDC/VCM Plant: The plant is designed to produce ethylene di- chloride (EDC) and vinyl chloride monomer (VCM) as feed for the production of polyvinyl chloride (PVC).

PVC Plant: Producing PVC is one of the major goals behind setting up Arvand Petrochemical Complex. It is designed to produce 300,000 tons per annum of S-PVC and 40,000 tons per annum of E-PVC for local consumption.

Sulphuric Acid Concentration (SAC) Unit: The Unit is designed to recover the sulphuric acid required to be used by the CA Plant. The 78% sulphuric acid current from the CA Plant is purified and concentrated within the stripper column yielding 96% acid which is returned to the CA Plant after going through certain processes. The SAC Unit has a capacity of 32 ton per day.

Salt Washing Plant: Salt saturation pits are 22 km from the boundary of Arvand complex. It supplies the concentrated brine that the complex requires for processing at its Chlor-alkali (CA) Plant. The process is designed so as to either produce brine with a concentration of 300-310 g/lit from sea water or out of the diluted brine which is returned from the CA Plant.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on October 2021

CONTACTS:

Project Manager: Mr. V.Hashemi
Technical Coordinator: Mr. Rahim Ahmadi

CLIENT CONTACTS:

Person-in-charge: Mr. Nekoei Tel: 06152126114

428th Project

3rd and 5th Development of Process Units

CLIENT

MTA Holding Oil Products Manufacturer

DESCRIPTION

MTA Holding Oil Products Manufacturer has intended to do basic design of new CDU 2000 BPD for producing Light Naphtha, Heavy Naphtha and Gasoil. This project consists of Fractionation Column, Crude Column Condenser, Heavy Naphtha Side Stripper, Blending Naphtha Side Stripper, Crude Fired Heater and Hydrocarbon Closed Drain Drum.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on July 2021

CONTACTS:

| | |
|------------------------|-------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mrs. M.Pourhasani |

CLIENT CONTACTS:

| | | |
|-------------------|----------------|------------------|
| Person-in-charge: | Mr. AjamHasani | Tel: 02126203100 |
|-------------------|----------------|------------------|

427th Project

EPC of West Ethylene Pipeline Compressor Stations- Siahmakan (CS-2) and Gachsaran (CS-7)

CLIENT

OTCC

DESCRIPTION

National Petrochemical Company (NPC) has 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, some Gas Compressor Stations including:

- -CS -1 located at Assaluyeh (feed supply point)/ CS -2 located at Mozzafari (Siahmakan)
- -CS -3 located at Ahwaz/ CS -4 located at Tang -e-Fani
- -CS -5 located at Pyaz Abad/ CS -6 located at Sanandaj
- -CS -7 located at Gachsaran (feed supply point)/ CS -8 located at Babameydan

At this project CS-2 and CS-7 were considered.

Compressor Station CS-2 included 3 train compressors that increase pressure of ethylene gas from 75 barg to 90 barg and send to CS-3. Ethylene gas is received by CS-2 from CS-1 with Mass flow; 326 ton/hr and 75 barg. Compressor Station CS-7 are included 3 train LP compressor and 2 train HP compressor. In LP stage pressure from 28 increase to 60 barg and HP stage pressure increased from 60 to and 90 bar and sent to Mahdasht, Mamasani, Kazeron, Brozjen. Ethylene gas is received by CS-7 from Gachsaran with 28 barg and Mass flow; 126 ton/hr.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced August 2021

CONTACTS:

| | |
|------------------|---------------|
| Project Manager: | Mr. V.Hashemi |
|------------------|---------------|

CLIENT CONTACTS:

| | | |
|------------------|--------------|------------------|
| Person-in-charge | Mr. Behnegar | Tel: 02188659713 |
|------------------|--------------|------------------|

426th Project

3rd and 5th Gas Refineries Propane feed line branch and Propane Transfer line to Mehr Petro Kimia complex

CLIENT

Namvaran Consulting Engineers (NCE)

DESCRIPTION

This project includes 3rd and 5th refineries Propane feed line branch and propane transfer line to Mehr Petro Kimia complex.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced July 2021

CONTACTS:

| | |
|------------------------|------------------|
| Project Manager: | Mr. H.Rohipour |
| Technical Coordinator: | Mr. Rahim Ahmadi |

CLIENT CONTACTS:

| | | |
|-------------------|------------------|------------------|
| Person-in-charge: | Mr. MirzaMostafa | Tel: 02122231620 |
|-------------------|------------------|------------------|

425th Project

Compressor package" of the 2nd Phase of Ammonia and Urea of Kermanshah Petrochemical Complex

CLIENT

Persia Petro Gas Company

DESCRIPTION

This plant is located in Kermanshah and this project includes air, NG, syngas and ammonia compressors in the ammonia unit and one CO₂ compressor in the urea unit. Air compressor has 4 stages that pressurize air from 0.85 bar to 39 bar. NG compressor has 1 stage and increases pressure from 16 bar up to 44 bar. Syngas compressor has three stages and makes pressure increase from 30 to 137 bar. The last compressor in this unit is used to pressurize ammonia from 0.88 to 15.6 bar within 4 stages. In the urea unit there is a 4-stage CO₂ compressor that pressurizes it from 1.7 to 144 bar. All compressors have turbines driven. Also each compressor is designed and will be manufactured as package by SBW. The main parts of the package include: Seal gas system, steam and drain system, lube oil system, control oil, machine monitoring system and surface condenser.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced in summer of 2021

CONTACTS:

| | |
|------------------------|-------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mr. A.Hassanzadeh |

CLIENT CONTACTS:

| | | |
|------------------|------------|------------------|
| Person-in-charge | Mr. Shokry | Tel: 02128162816 |
|------------------|------------|------------------|

424th Project

PDH, PP, Utility and Offsite of Mehr Petro Kimia Petrochemical Complex

CLIENT

Namvaran Consulting Engineers (NCE)

DESCRIPTION

This project is consisting of study about hazard potential of Mehr Petro Kimia Petrochemical Company by HAZID Method Mehr Petro Kimia Petrochemical Complex is located in Phase 2 of Assaluyeh Petrochemical. This complex has 2 process units PDH and PP, which is the final product that can be solid PP in different grades. Also, some Utility units are located on the site of this complex. Other required utilities are obtained from Damavand Petrochemical.

CONTENTS

- Hazard Identification (HAZID)

STATUS

Commenced September 2021

CONTACTS:

Project Manager: Ms. P. Saeedi

CLIENT CONTACTS:

Person-in-charge: Mr. Zarine Kafsh Tel: 02122231620

423rd Project

42 MW Gas Turbine Generator (GTG)-TUGA Packages

CLIENT

Consortium of Mapna Group and Neyr Perse Companies

DESCRIPTION

Esfahan Oil Refinery has intended to supply its required power by adding 4x42 MW GTG (Gas Turbine Generator). These GTG are dual fuel; Natural gas and gasoil and will be designed and supplied by TUGA.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced September 2021

CONTACTS:

Project Manager: Mr. V.Hashemi
Technical Coordinator: Mr. R.Ahmadi and Mr. A.Hassanzadeh

CLIENT CONTACTS:

Person-in-charge: Mr. Mashhadimoslem Tel: 02123534128

422nd Project

Cracked Gas, Ethylene and Propylene Refrigerant Compressors of "Kangan Olefin" Project

CLIENT

OIEC

DESCRIPTION

KANGAN Petro-Refinery Complex (KPRC) that is located in KANGAN (BUSHEHR Province) intends to produce petrochemical products such as PE (Poly Ethylene, 750 ktpy) and MEG (Mono Ethylene Glycol, 550 ktpy). In Kangan Olefin unit Kangan, cracked products pressurized by Cracked Gas Compressors from 2 barg to 33.26 barg in five stages, driving force type of this compressor is steam turbine with surface condenser. Also Ethylene and Propylene compressors are used for refrigeration of Olefin unit. Driving force type of these compressor are steam turbine too. These compressors include lubrication system, condensing system and sealing system.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced July 2021

CONTACTS:

Project Manager: Mr. F. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Mirashrafi Tel: 02172385000

421st Project

Export Jetty No. 6 of Mahshahr

CLIENT

Persian Gulf Bid Boland Gas Refinery Company

DESCRIPTION

This project includes Export Jetty No. 6 of Mahshahr. Three products of Bid Boland Gas Treating refinery include of Propane (C3), Butane (C4), and Condensate (C5+), will be exported from this jetty. In this project piping, loading arms and closed drain system related to these products are studied.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced June 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Valadkhani Tel: 02188703522

420th Project

1 & 3 Sites of Bushehr Petrochemical Complex

CLIENT

Bushehr Petrochemical Company

DESCRIPTION

The purpose of Site 3 of Bushehr Petrochemical Complex is to increase pressure of rich gas to required pressure of site 2, removing H₂S and CO₂ in gas and dehydrate gas which is required for C₂ recovery unit. This plant is composed by the following Units:

- Gas Compression Unit 110
- Acid Gas Removal Unit 120
- Acid Gas Enrichment And Tail Gas Treatment Unit 130
- Sulphur Recovery Unit 140
- Sour Water Stripper Unit 150
- Acid Flare Unit 160
- Gas Dehydration Unit 170
- High Pressure Flare 415
- Utility Unit includes Boilers, water treatment, air and nitrogen generation, etc.

Also RO unit in site 1 is in scope of this unit. RO unit received Sea Water from Damavand Petrochemical and after pre-treatment system, produce service and demin water by RO and mixed-bed systems.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced August 2021

CONTACTS:

Project Manager: Mr. M. Haghbin

CLIENT CONTACTS:

Person-in-charge: Mr. Ghanavati Tel: 02142757000

419th Project

TEG Dehydration Package of South Azadegan Oil Field Development Project Phase

CLIENT

Enerchimi Consulting Engineers Company

DESCRIPTION

Project includes hazard identification (HAZOP) and risk assessment for determination of required SIL for TEG Dehydration Package of CTEP related to of South Azadegan Oil Field Development Project Phase I. These Packages are designed to dehydrate sour natural gas from the MP Gas Compressors in order to meet the water content specification of the export gas and to prepare the gas for the downstream export gas pipelines.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced July 2021

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Ms. Hasanzadeh Tel: 02188618711

418th Project

"Abadan/Rey Product Transferring Pipeline" Project

CLIENT

Danial Petro Company

DESCRIPTION

Project includes hazard identification and risk assessment for determination of required SIL for Oil Storage Tanks, Transferring Pumps, Disposal Sump and Pumping Facilities, API Separator, Oily Tank and Pumping Facilities, Diesel Daily Tank Facilities, Potable Water Tank Facilities, Relief Tank and Pumping Facilities and Closed Drain Tank and Pumping Facilities related to Sabzab, Asar, Tange-Fanni, Razan, Pale Baba and Shazand Stations.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced June 2021

CONTACTS:

Project Manager: Mr. S. Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Mahjoub Tel: 02143984000

417th Project

The N2 Circulator Compressor Which Belongs To "Persian Gulf Apadana Methanol" Project

CLIENT

Pishgaman Sanat Enteghal Caspian Company

DESCRIPTION

Apadana Persian Gulf Petrochemical Company located at Assaluyeh has intended to provide a reciprocating compressor with nitrogen process gas and synthesis gas for start up the Methanol unit. The compressor is designed for four modes: Inlet pressures 4.51 / 4.51 / 6.5 / 14 bar g and discharge pressure to adjust 8.01 / 9.01 / 13.01 / 27.02. The compressor included lubrication system, cooling system and Capacity control System and is designed and manufactured by SBW.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced June 2021

CONTACTS:

Project Manager: Mr. V. Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Akbari Tel: 02126138476

416th Project

SPD5-9 Equalizing Line System

CLIENT

Pars Faragam Engineering and Construction Company

DESCRIPTION

Pars Oil & Gas Company (POGC) intends to consider equalizing facilities for wells of offshore platform (SPD5~9) in South Pars, the purpose of this project is pressurization of wells by using active well gas. This method is considered in several similar wells which lead to saving time. Pressure of wells in depth of 2085 (m) is 361 barg and average temperature is 90 OC.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced in June 2021

CONTACTS:

| | |
|------------------------|------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mrs. S.Tasharofi |

CLIENT CONTACTS:

| | | |
|-------------------|-----------------|------------------|
| Person-in-charge: | Mr. Hassanzadeh | Tel: 02188760533 |
|-------------------|-----------------|------------------|

415th Project

Incinerator Project for Mahabad Petrochemical Complex

CLIENT

Mahabad Petrochemical Company

DESCRIPTION

The Package is designed to thermally oxidize one hundred kg/hr of solid wastes as well as liquid waste together. The process sections are identified as follows:
 Area 100 – solid feed preparation and feeding consist of hydraulic drum lifting, shredder, dust collector and other required facilities.
 Area 200 – Liquid feed preparation and feeding consist of storage tank with mixer, gear type unloading pump, dosing pump and other required facilities.
 Area 300 – Rotary kiln and post combustion chamber with emergency stack and ash unloading facility.
 Area 400 – Flue gas treatment and exhaust system including quencher, wet scrubber, chemical injection, ID fan and flue gas stack.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on May 2021

CONTACTS:

| | |
|------------------------|-------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mrs. M.Pourhasani |

CLIENT CONTACTS:

| | | |
|------------------|-------------|------------------|
| Person-in-charge | Mr. Ostovar | Tel: 04438661686 |
|------------------|-------------|------------------|

414th Project

EVA (Ethylene Vinyl Acetate) Conversion"

CLIENT

Laleh Petrochemical Company

DESCRIPTION

Ethylene vinyl acetate (EVA) is a polymer made of ethylene and vinyl acetate that is synthesized in either tubular reactors or autoclave reactors under high pressures with organic peroxides as polymerization initiators. EVA is produced in low density polyethylene (LDPE) manufacturing facilities by addition of varying quantities of vinyl acetate monomers. This project consists of VAM Storage Tanks, Buffer Storage Tank, VAM Drying, VAM Recovery Columns, Xylene Wash Storage Tanks Very High Pressure Nitrogen, Chilled Water and HQ Make-Up Dosing.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on May 2021

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Sharifi

Tel: 06152122800

412th Project

Flare Package of Persian Gulf Apadana Petrochemical Complex

CLIENT

Petrochemical Industries Design & Engineering Company (PIDEC)

DESCRIPTION

AIPCECO was invited by PIDEC to conduct a Hazard and Operability Study (HAZOP), The purpose of constructing Flare Package is to Burning of flaring gas in emergency cases.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on Summer of 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mrs. Daneshi Tel: 07132273133

411th Project

Packages Related to Esfahan Southern Refinery

CLIENT

Nargan Engineering Company (NEC)

DESCRIPTION

Esfahan oil refining company intends to supply liquid Nitrogen for Diesel Hydro-treatment (DHT) unit, so Nitrogen package is designed, this package includes Air Compressors, Dryer, Chiller, Cold Box, Turbo-Expander, Towers and Bath Vaporizer. Also this refinery for commissioning of residue hydro-treating (RHU) has supplied filter package (for treating of inlet feed), Corrosion Inhibitor Injection Package, Antifouling Agent Injection Package, Antifoaming Agent Injection Package, Phosphate Injection Package.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced in 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Karimpour Tel: 02188914926

410th Project

Recycle Gas Compressor Package of Bushehr Petrochemical Complex-MEG Plant

CLIENT

Persia Petro Gas (PPG) Company

DESCRIPTION

Compressor (C-2001) is a package of EO plant of Bushehr Petrochemical Company that located at Assaluyeh, which totally is designed and manufactured by SBW as the vendor. This compressor is designed for recycle gas compressing Ethylene from 15.1 bar to 19 bar (a) for downstream applications (EO Reactors).

Main parts of compressor are consisting of: Sealing, Lube oil and Mechanic Monitoring System.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)
- SIL Verification

STATUS

Commenced on April 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Shabani Tel: 02128162816

409th Project

Minab-Sirik 42 inch Gas Transfer Pipeline" Project

CLIENT

Tarh Andishan Consulting Engineering Company

DESCRIPTION

In order to supply gas to MINAB City, ANAMIS Power Plant, Steel and Rolling Complex, KOUHESTAK Power Plant and SIRIK City, National Iranian Gas Engineering and Development Company (NIGEDC) has intended to construct an approximately 120 km a pipeline 42" with design pressure (psig) of 1400 and the relevant stations (Pig launcher and receiver stations, valve stations, cathodic protection stations, etc.) defined as EPC project.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety integrity level (SIL)
- Hazard Identification (HAZID)
- Value Engineering

STATUS

Commenced on May 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Miss. Habibi Tel: 021-88824370

408th Project

Waste Water Treatment of Cooling Water Unit of Middle East Kimiaye Pars Company

CLIENT

Middle East Kimiaye Pars Company

DESCRIPTION

The new waste water treatment facilities of Kimia Pars Middle East Company have been designed for maximum recycling of waste water of cooling towers blow-down. Due to the limited space in site, this facility is to be installed in several containers under positive pressure and inside process section. In this design, the cooling water, after several stages of filtration and removal of suspended solid particles, finally reaches the desired purity with the help of reverse osmosis (RO) filters and so part of blow-down water is returned to the cooling water cycle.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on April 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Nasrollahi Tel: 02147620210

407th Project

Utility and Offsite for Bushehr Petrochemical Complex Project-Detailed Engineering Phase

CLIENT

Petro Gas Jahan Company

DESCRIPTION

The Bushehr Petrochemical, Utility and Offsite Plant is located at Ban dar Assaluyeh North of Persian Gulf, south of Iran. This plant includes: Utility between BUPC and Damavand Petrochemical company, Product and Feed Lines, Utility between Units inside BUPC, Natural Gas Reduction station, Cooling Water and Metering Packages. During final stage of detailed design phase, "Jahan Pars" Company as EPCC contractor of project called for HAZOP/HAZID/SIL study. The study has been conducted during 4 days by a specialist team from AIPCECO, which was accompanied by managers and specialists from Process, Piping, Instrument, Mechanic and Safety of BUPC, Samt va Soye Toseh Iranian, Namvaran Delvar, Jahan Pars and Petro Gas Jahan Companies.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety integrity level (SIL)

STATUS

Commenced on May 2021

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge Mr. Javadzadeh Tel: 02127624000

406th Project

Increasing the liquid Feed Capacity to the Olefin Unit Furnaces" Project

CLIENT

Amir Kabir Petrochemical Company

DESCRIPTION

Increasing the liquid Feed Capacity to the Olefin Unit Furnaces by adding two new pumps (P-9571D/E) and modification of existing piping.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on May 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Tayebi Tel: 06152174555

405th Project

Control System of two Boilers of Shiraz Oil Refinery

CLIENT

Falat Sanat Ideh Company

DESCRIPTION

Shiraz Oil Refinery Company intends to replace control system of existing two Boilers (120 t/hr) with new and improved control systems based on international standards. Aim of study at first is process hazard identification based on HAZOP technique during normal operation, start-up, shutdown and maintenance of two Boilers then SIL assessment of safety interlocks related to Boilers and finally verification of required SIL for reaching acceptable risk of hazardous scenario related to Boilers.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced on April 2021

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge Mr. Havaegi Tel: 02154882000

404th Project

16 inch C2+ Pipeline and Receiver Trap" Project for Bandar Imam Petrochemical Company

CLIENT

Faradast Energy Falat Company

DESCRIPTION

This Project include Pig receiver station of C2+from NGL 3200 to BIPC Co. and in order to review HSE aspect of project HAZID study was conducted.

CONTENTS

- Hazard Identification (HAZID)

STATUS

Commenced in winter of 2021

CONTACTS:

Project Manager: Mr. P.Saeedi

CLIENT CONTACTS:

Person-in-charge: Mr. Shahmansuri Tel: 02122927141

403rd Project

Desulfurization Methane Purification Unit (MPU Package) for MEG Plant of Farsa Chiemi Petrochemical

CLIENT

Sina Control Company

DESCRIPTION

Methane Purification (MPU) is designed to purify methane gas from the MEG unit of Bushehr Petrochemical Company. In this package, natural gas with a flow of 452 kg / hr and a pressure of 25 bar. After removal of heavy and sulphur compounds with 95% purity free of undesirable combinations of (total H₂S <0.01 mg/Sm³) to low unit Hands handed. This project consists of hydrogenation and desulphurization, pre-reformer, Charge Heater, Methanation and separation facilities.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on March 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Shahram Zare Tel: 07132321055

402nd Project

Renovation of Pipelines and Facilities of Marun Asmari 1 & 4 Oil Field Project

CLIENT

Tarh Andishan Consulting Engineering Company

DESCRIPTION

National Iranian South Oil Company (NISOC) has intended to Design Marun Asmari 1 & 4 project in the form of an integrated package of operations-oriented plan to increase / maintain the production of 27 reservoirs of the National Iranian South Oil Company. Marun Asmari 1&4 production unit is located 50 km east of Ahwaz city, east of Khuzestan the province, south-western of Iran, and it is operating under the management of Marun Oil & Gas Company of NISOC. This project divided to two parts: 1- Surface (included: S1 to S4 section) 2- Sub Surface (Included: Well Location & Flow line , Multiphase Pump- Installation of multiphase pump for low pressure wells of Marun 1&4).

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced on winter of 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gholami Tel: 02188824370

401st Project

24" Transmission Methanol Pipeline

CLIENT

Sahand Sazeh Alborz Company

DESCRIPTION

Mokran Petrochemical Company intent to transfer its methanol products to Tank Farm in Shahid Beheshti Pot through 24" pipeline.

CONTENTS

- Quantitative Risk Assessment (QRA)

STATUS

Commenced Febreuary 2021

CONTACTS:

Project Manager: Mr. M. Ghaviandam

CLIENT CONTACTS:

Person-in-charge Mr. Soltan Tel: 021-88826782

400th Project

Ramin Oil Field Development Project-Subsurface Section

CLIENT

Enerchimi Engineering Company

DESCRIPTION

National Iranian South Oil Company (NISOC) has planned to develop Ramin oil field. Ramin oil field is located in Ahwaz area as far as 30 kilometers to the North of Ahwaz.

The major parts of Ramin Surface project are:

- Ramin Booster / Cluster facility
- Ramin Gas Compressor Station and Dehydration Unit
- Ramin Gas Pipeline to AMAK-GTP
- Capacity Increasing of Ahwaz-2 Existing PU

The crude oil and compressed gas will be exported via separate pipelines to the Ahwaz-2 Existing production unit and AMAK-GTP respectively.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level Study (SIL)

STATUS

Finished at October 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Hashemi Tel: 02188618711

399th Project

Maintaining of Health, Safety, Environment Management System

CLIENT

The Region 20 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

CONTENTS

- Determine objectives and targets and policy
- Risk assessment
- JHA
- Documentation

STATUS

Commenced in February 2021

CONTACTS:

Project Manager: Mrs. S.Khosroshahi

CLIENT CONTACTS:

Person-in-charge Mr. Jangjoo Tel: 02155611112

398th Project

MEG Unit of Bushehr Petrochemical Complex Plant

CLIENT

Chagalesh Consulting Engineering Company

DESCRIPTION

A MEG unit uses hazardous materials like pure oxygen and ethylene oxide with special hazards also flammable material like ethylene. These materials have highly potential risk of internal and external fire/explosion. For preventing formation of flammable mixture inside of equipment and piping so risk of internal explosion, so many safety interlocks (ESD) are provided. Around 112 safety interlock (SIF) is identified which 30 of them have voting 1oo2 or 2oo3 in sensor part of SIF that shows high importance of ESD system in MEG Unit. SIL assessment workshops during 4 days with calibrated risk graph method is done for determination of required SIL for each SIF.

CONTENTS

- Safety integrity level (SIL)

STATUS

Finalized at May 2021

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. M.Ruhipour Tel: 02188804770

397th Project

Centralized Tank Farm of Assaluyeh Petrochemical Phase II

CLIENT

Rajan Petro Farayand

DESCRIPTION

Project includes hazard identification (HAZOP/ HAZID) and risk assessment for determination of required SIL for Storage (6 Methanol Tanks, 2 MEG Tanks, 1 DEG Tank), Metering and Transferring Pumps also utility system includes IA, N2, Steam distribution, Fuel Gas, Potable Water and Closed Drain.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Finished at June 2021

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge Mr. Maleki Tel: 02122901841

396th Project

LP Compressor Station and Compressor Package (SBW) 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. Also LP Compressor package is designed and manufactured by SBW as the vendor.

Main parts of compressor are consisting of: Sealing, Lube oil and Hydraulic Coupling.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced February-March 2021

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Asgari

Tel: 02122060944

395th Project

HDPE Unit of Gachsaran Petrochemical Complex

CLIENT

Oil Industries Engineering and Construction (OIEC)

DESCRIPTION

Oil Industries Engineering and Construction (OIEC) is responsible for development and operation of HDPE plant (Capacity: 300 KTPA- kilo tons per annum) at Gachsaran City, Kohgiluyeh and Boyer-Ahmad Province, Iran. Feed of this unit is supplied from olefin unit. This project is in basic phase. HDPE Plant consist following sections:

Catalyst and Co-Catalyst Handling And Dosing, Powder Production (Polymerization) & Continuous Analyzing Equipment, Powder Separation, Powder Drying, Transport And Storage (Silos), Hexane Distillation And Adsorption Towers, Butene Recovery, Wax Recovery And Sludge Treatment, Hexane Recovery, Off-Gas System, Tank Farm, Extrusion System (Natural), Stabilizer Handling And Storage (Natural), Pellet Homogenization And Storage (Natural), Compressor Station, Extrusion System (Black), Stabilizer Handling And Storage (Black), Pellet Homogenization And Storage (Black), Refrigeration Unit And Jacket Water System, Steam And Condensate System, Caustic Soda System, Instrument Air Buffer, Flare.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced March 2021

CONTACTS:

Project Manager:

Mr. F.Abiri

CLIENT CONTACTS:

Person-in-charge

Mr. Karimkhani

Tel: 02122218005

394th Project

Dry Gas Seal System for Centrifugal Compressors of Arya Sasol Polymer Company

CLIENT

Tajhiz Arg Parsian Company (TAPCO)

DESCRIPTION

TAPCO is a company in the field of Repair and Maintenance of rotary equipment .In this project "Dry Gas Seal" System for Centrifugal Compressors of Arya Sasol Polymer Company including primary gas seal, secondary gas seal and separation gas is designed by this company.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced February 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Bayatloo Tel: 02126216127

393rd Project

LPG Export from Tombak Port

CLIENT

Darya Bandar Consulting Engineers Company

DESCRIPTION

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:

- When the berth 2 is being constructed and loading of the tankers taken place at the berth 1 only,
- During using both berths for loading.

The risk assessment is limited to the handling of the LPG, with respect to risk to the crew on board the ships, and personnel in the port.

CONTENTS

- Quantitative Risk Assessment (QRA)

STATUS

Commenced in winter 2021

CONTACTS:

Project Manager: Mr. M. Ghaviandam

CLIENT CONTACTS:

Person-in-charge Mr. Alamiyan Tel: 02122516834

392nd Project

ETX, EA, GE, MA, EO, EG, G and S Units of Petronad Asia Petrochemical Company

CLIENT

Petronad Asia Petrochemical Company

DESCRIPTION

Petronad Asia Petrochemical Company, located in Mahshahr Special Economic Zone, plans to construct a complex comprising Ethoxylation Unit (ETX), Ethanol Amin Unit (EA), Glycol Ether Unit (GE), Methyl Amin Unit (MA), Ethylene Oxide Unit (EO), Ethylene Glycol Purification Unit (EG), Glycerin Unit (G), Sulphonation Unit (S), Utility, interconnection and off-site facilities in plant site.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Fire Risk Assessment (FRA)
- Consequence Modelling (CM)
- Layout Study

STATUS

Commenced November 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rahimzadeh Tel: 02188746565

391st Project

Haftkel-Izeh and 36" Maroun-Gandomkar Gas Transmission Pipeline

CLIENT

Sahand Sazeh Alborz Company

DESCRIPTION

Iranian Gas Engineering & Development Company (NIGCENG) has intended to construct 16" Haftkel-Izeh and 36" Maroun-Gandomkar Gas Transmission Pipeline in following sections:

-16" Haftkel-Izeh Gas Transmission Pipeline with capacity of 1.4 MMSCMD, design pressure of 1050 psig, approximate length of 59 kilometers from Mamatin (Haftkel) to Izeh city and three branches at Ariyana-Bagh malek (Km: 29.5), Ghal'e Tol & Pump Station No. 3 (km: 34) and Pump station No 4 & Karoon Dam (Km: 53) are considered.

-and 36" Maroun-Gandomkar Gas Transmission Pipeline with capacity of 5.5 MMSCMD, design pressure of 1050 psig, approximate length of 11.5 kilometers from Maroun to Mamatin and Gandomkar branches.

- Launcher station, receiver station and LBV stations

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced September 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Amini Tel: 02188035879

390th Project

Sulphur Recovery Plant of Tabriz Oil Refining Company

CLIENT

Oil Design and Construction Co. (ODCC)

DESCRIPTION

TABRIZ OIL REFINING COMPANY intends to build a new Sulphur Recovery Plant (SRP) inside the TABRIZ Refinery to convert refinery Acid Gas and Sour Gas streams to Liquid Sulphur with conversion yield of minimum 94%.

The unit capacity is 110 T/D. The unit turndown rate is 30% of the design capacity while making on-specification products. The feed of this unit is blend of Amine Acid Gas, Sour Water Stripper Acid Gas and Acid gas from Gasoil Hydro treating Plant (GHTP) amine regeneration section.

The PLANT shall consist of Process units as follows:

- Sulphur Recovery (Claus Process) with three Catalytic Reactors
- Incinerator Section
- Sulphur Degassing Section

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety integrity level (SIL)

STATUS

Commenced January 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ravanbod Tel: 88920953

389th Project

Gas Condensate Feed Storage Tank Project of Bandar Abbas Refinery

CLIENT

Fara Petrosazan Energy Company

DESCRIPTION

Persian Gulf Star Oil Company is constructed a gas condensate refinery in Southern Iran at Bandar Abbas. This company is intended to increase the capacity of refinery from 450000 BPSD to 540000 BPSD in next step, and then it is necessary to increase the feed storage capacity accordingly.

Feed to refinery is South Pars Stabilized Gas Condensate from Assaluyeh. In order to have sufficient storage facilities, in addition to 5 existing gas condensate storage tanks, two new gas condensate storage tanks will be added to store gas condensate at refinery site. Gas Condensate shall be pumped through a common header to the gas Condensate Distillation Units. This project is performed in detailed engineering phase and it is EPC.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced February 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Hamzeh Tel: 086-33126879-83

388th Project

26" Bandar Abbas-Mehran Oil Products Transmission Pipeline Project

CLIENT

Tadbir Energy Gostar Iranian Company

DESCRIPTION

National Iranian Oil Engineering and Construction Company (NIOEC) has intended to perform a network of transmission pipelines with below characteristic in order to transferring oil products such as Gas Oil , Kerosene , Gasoline.

- 26" oil products pipeline with approximate length of 132 kilometers from Bandar Abbas pump station to Ghotabad pump station.

- 26" oil products pipeline with approximate length of 111 kilometers from Ghotabad pump station to Mehran pump station.

CONTENTS

▪ Hazard and Operability Study (HAZOP)

▪ Hazard Identification (HAZID)

STATUS

Commenced on January 2021

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Montazeri

Tel: 021-26216127

387th Project

Common Facilities of ASU I" for Damavand Petrochemical Company

CLIENT

Damavand Petrochemical Company

DESCRIPTION

Damavand Petrochemical Company located at Assaluyeh has intended to design and detail for common facilities of ASU-I. Common facilities consists: Cooling Tower, Chemical Injection Package for Cooling Tower, Cooling Tower Blow down pit, HP Steam Header, BFW Header, LP Condensate Header, Instrument Air Header, Nitrogen Header, Plant Header, HP Oxygen, MP Oxygen, Drinking water line, Service Water, Sanitary Sewage, Oily Sewer.

CONTENTS

▪ Hazard and Operability Study (HAZOP)

▪ Hazard Identification (HAZID)

STATUS

Commenced January 2021

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge

Mr. Baghaee

Tel: 021-88773720

386th Project

**Desulfurization Methane Purification Unit (MPU Package)
for MEG Plant of Bushehr Petrochemical Company**

CLIENT

Sina Control Company

DESCRIPTION

Methane Purification (MPU) is designed to purify methane gas from the MEG unit of Bushehr Petrochemical Company. In this package, natural gas with a flow of 703 kg / hr and a pressure of 29.5 bar. After removal of heavy and sulphur compounds with 95% purity free of undesirable combinations of (total H₂S <0.01 mg/Sm³) to low unit Hands handed. This project consists of hydrogenation and desulphurization, pre-reformer, Charge Heater, Methanation facilities.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced on January 2021

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Sh.Zare

Tel: 07132321055

385th Project

**Branched lines of Ethane and Propane from Bid Boland Refinery
to Amir Kabir Petrochemical Company**

CLIENT

Amir Kabir Petrochemical Company (AKPC)

DESCRIPTION

Amir kabir petrochemical (AKPC) and Bandar Imam Petrochemical Company (BIPC) are located in Special Economic Zone Mahshahr Khuzestan, province Iran. This project is about directly branched 10" Propane and 20" Ethane from pipelines between Bid Boland Gas Refinery and BIPC. Currently Ethane and Propane transferred from Bid Boland Gas Refinery to BIPC then required Ethane and Propane are transferred from BIPC to AKPC. Pipeline between Bid Boland gas refinery and BIPC is 124 km.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced December 2020

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge

Mr. Rashidi

Tel: 06152174555

384th Project

Loading Facilities to Truck of Liquid N₂ and O₂ – Bushehr Petrochemical Complex

CLIENT

Bushehr Petrochemical Complex

DESCRIPTION

The product of Bushehr Petrochemical Air Separation Unit is liquid oxygen and nitrogen, which excess production sells by truck to consumers. Liquid oxygen is very dangerous due to its very low temperature as well as its high reactivity with various materials. AIPCECO was invited by BUPC Petrochemical Complex to perform HAZOP study of liquid loading facilities.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced November 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rezaee Kia Tel: 02142757000

383rd Project

Feed Gas Metering Package and Analyzer House of West Karoun Area NGL3200 Plant

CLIENT

Metering Technology Automation Solutions (MeTAS)

DESCRIPTION

AIPCECO was invited by Metering Technology Automation Solutions (MeTAS) to conduct a HAZOP study. Sour Gas outlet of slug catcher passes through Gas Custody Transfer Metering Package in order to perform a custody flow measurement. The Transfer Custody Metering Package is include an assembly of flow meter, process sensor, filters, pipes, valves, computers, auto-sampler and associated control system necessary to measure the quantity of the flowing medium and necessary for the complete management of the package.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced December 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Gohardehi Tel: 0097172431070

382nd Project

Yield Improvement of Mek De-Waxing Project

CLIENT

Faranegar Industrial Design & Engineering Company and Venusan Company

DESCRIPTION

For yield improvement of MEK DE-WAXING Unit, 4 Vacuum Rotary Filters will be added to existing plant. By this new arrangement The yield of the MEK De-waxing Unit will be improved from 75 to 80%

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS

Final at November 2020

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Afraz Tel: 02188557273

381st Project

Basic Design of New CDU (Prefractionator)" of MTA Holding Oil Products Manufacturer

CLIENT

MTA Holding Oil Products Manufacturer

DESCRIPTION

MTA Holding Oil Products Manufacturer has intended to do basic design of new CDU 20000 BPD for producing Light Naphtha, Heavy Naphtha and Gasoil. This project consists of Fractionation Column, Crude Column Condenser, Heavy Naphtha Side Stripper, Blending Naphtha Side Stripper, Crude Fired Heater and Hydrocarbon Closed Drain Drum.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced December 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge Mr. Khademi Tel: 02126203100

380th Project

Storage Terminal Development Plan of Farasakou Assaluyeh Company

CLIENT

HAMPA Energy Engineering and Design Company (HEDCO)

DESCRIPTION

This project is about Farasakou storage terminal development plan. Main goal of plan is to increase variety and capacity of storage in existing terminal. Over than 60 tanks (internal floating roof, floating roof, fixed roof with blanketing gas and atmospheric fixed roof) has been considered for this issue. Tanks are able to fill from petrochemical plants located at Assaluyeh, ships and remote domestic refineries in Iran (via truck) and load products to ships through large capacity pumps and loading arms. More than 14 products can be stored, imported and exported. There are also proper facilities to blend different products with additives to reach an specific specifications of products.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced November 2020

CONTACTS:

Project Manager: Mr. F.Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Farid Tel: 07132136000

379th Project

All Process and Utility Units of Bouali Sina Petrochemical Company

CLIENT

Bouali Sina Petrochemical Company (BSPC)

DESCRIPTION

Hazardous area classification is the assessed division of a facility into hazardous areas and non-hazardous areas, and the subdivision of the hazardous areas into zones. A hazardous area is defined as a three-dimensional space in which a flammable atmosphere may be expected to be present at such frequencies as to require special precautions for the design and construction of equipment, and the control of other potential ignition sources.

CONTENTS

- Hazardous Area Classification

STATUS

Commenced 2021

CONTACTS:

Project Manager: Mr. M.Ghaviandam

CLIENT CONTACTS:

Person-in-charge Mr. Moayedi Tel: 06152173775

378th Project

Hydrogen Purification Package of olefin unit of Kangan Petrochemical Development Company

CLIENT

Sina Control, Engineering design and manufacturing company

DESCRIPTION

The PSA process is based on the selective adsorption of impurities on an adsorbent at high pressure (to produce hydrogen gas with minimum purity of 99.99 mol %) followed by the regeneration of the adsorbent by desorption of the adsorbed impurities at low pressure. Every adsorber operates on this repeated cycle without any changes in temperature except for those caused by the heat of adsorption and desorption. The cycles are staggered in order to provide a continuous product and waste gas flow which can then be sent back to the fuel system.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced November 2020

CONTACTS:

Project Manager: Mr. R.Joharinad

CLIENT CONTACTS:

Person-in-charge: Ms. Kiani Tel: 07132320162

377th Project

Whole Kian Petrochemical Complex

CLIENT

Energy Industries Engineering and Design Company (EIED)

DESCRIPTION

Consequence modelling refers to the calculation or estimation of numerical values (or graphical representation) that describes the credible physical outcomes of loss of containment scenarios involving flammable, explosive and toxic materials with respect to their impact on people, assets or safety functions. QRA is a means of making a systematic analysis of the risks from hazardous activities, and forming a rational evaluation of their significance, in order to provide input to a decision-making process. QRA is probably the most sophisticated technique available to engineers to predict the risks of accidents and give guidance on appropriate means of minimizing them.

CONTENTS

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

STATUS

Commenced 2021 and terminated in June 2021

CONTACTS:

Project Manager: Mr. J.Ghasemi/Mr. M.Molataheri

CLIENT CONTACTS:

Person-in-charge: Mr. Eftekharihoseini Tel: 02122542090

376th Project

Olefin Unit of Marun Petrochemical Complex

CLIENT

Marun Petrochemical Complex

DESCRIPTION

With an annual out-put capacity of 1.1m tons of ethylene, marun's olefin plant is amongst the world's few mega- olefins that have become operational. The plant's main production sate also includes 200,000 ton/year of propylene. Besides, it yields pyrolysis gasoline, heavy C3+, methane and hydrogen as by-products. The project includes ethane and propane feed preheaters, 8-stage furnaces, Quench tower, five-stage compressed cracked gas, Caustic tower to remove H2S from cracked gas, three-stage hydrogenation reactor, hydrocarbon separation by distillation towers and storage tanks and auxiliaries including flare and cooling system, BFW etc.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced November 2021

CONTACTS:

Project Manager: Mr. F.Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Sadeghian Tel: 06134497705

375th Project

"Zabol CGS HAZOP and HAZID Studies for Zabol CGS station and Dashtak-Zabol 24" Gas Pipeline" project

CLIENT

Tarh Andishan Consulting Engineers Company

DESCRIPTION

Tarh Andishan Consulting Engineers Company has intended to Design 24" gas pipeline from Dashtak to Zabol and Zabol CGS station in following sections:

- 24" Gas pipeline with 110 kilometers length from Dashtak to Zabol with Dashtack Launcher and Zabol Receiver and LBV Stations.
- Zabol CGS station.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced November 2021

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Roudsari Tel: 02188824370

374th Project

Crude Oil Storage Tanks, Booster Pumps and Utility of Sabzab Pump Station

CLIENT

Danial Petro Company

DESCRIPTION

The Project is divide into two part:

1- Sabzab storage tank area that located khozestan province, included two storage crude oil tank with capacity of 273465 bbl with four booster pump 150000 bbl/day, metering package, oil/ water separator, potable water tank and drainage collection system, crude oil transferred to storage tank by a- 26" pipeline that branched from discharge sabzab pump station with 4500000 bbl/ day capacity b- 24" pipeline branched from Cheshme Khosh with 280000 bbl/ day capacity c- 10" pipeline branched from Dezful phase 1 with 120000 bbl/ day capacity and 12" pipeline from Dezful phase 1 high pressure line to sabzab pump station.

2 – Transferring crude oil 24" pipeline from Razan to Shazand Imem Khomainsi refinery with capacity of 324500 bbl/day included pig receiver, metering package, oil/ water separator and drainage collection system.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced October 2020

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Ms. Rostami

Tel: 02143984000

373rd Project

"Central Treatment and Export Plant (CTEP) of South Azadegan Oil Field Development (Phase I)" Project

CLIENT

Enerchimi Engineering Company

DESCRIPTION

The Central Treatment and Export Plant (CTEP) of South Azadegan Oil Field is to be designed to process oil and gas as well as produced water to meet the required specifications at detailed design phase. CTEP consists of the following systems:

- Oil process system (production manifolds, oil separation, oil dehydration/desalter, oil stabilization, storage and export)
- Gas process system (gas compression, gas dehydration using TEG, fuel gas system, export gas)
- Produced water treatment and disposal (degassing, floatation, etc.)
- Utilities (instrument and plant air, flare systems, closed and open drain systems, Chemical injection system, potable water, nitrogen supply system, diesel supply system, etc.)
- export pipelines (complete with pigging facilities)

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS

Commenced October 2020

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Saffaran

Tel: 02188618711

372nd Project

"30 inch Bandarabbas/ Laft/ Gavarzin/Gas Transmission Pipeline & 16 inch Persian Gulf Industrial Zone Gas Pressure Control Station" project

CLIENT

Tadbir Energy Gostar Iranian Company

DESCRIPTION

Iranian Gas Engineering & Development Company (I.G.E.D.C) has intended to construct gas pipeline from IGAT VII (near to Bandar Abbas) in following sections:

- 30" Gas pipeline with 57 kilometers length from Bandar Abbas (branched from IGATVII) to Qeshm
- 16" branch pipeline with 10 kilometer length from the main line in 18 KM of 30" branch mentioned above to Persian Gulf Industrial Zone (PGIZ).
- Launcher station, receiver station and LBV stations

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced September 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Bahrami Tel: 02126216127

371st Project

Maroon Oil Field Development Project

CLIENT

Tarh Andishan Consulting Engineering Company

DESCRIPTION

Value engineering is a systematic method based on creativity and teamwork to solve problems, reduce costs and improve the performance and quality of projects, products and processes.

High costs of project implementation or product manufacturing, long distance between design and implementation, major barriers for project implementation, high complexity of projects, lack of basic information, lack of communication between design factors and project stakeholders, advancement of technologies used and improvement of standards and creativity are among the main factors contributing to the importance of value engineering.

Pre-study, value engineering workshop and post-study are the three main steps in value engineering. The scope of each of these steps is as follows:

First step (pre-study): structuring, collecting and preparing information, team selection, modelling

Second step (value engineering workshop): information, function analysis, idea generation, evaluation, development of ideas, presentation

Third step (Post-study): Study report, supplementary programs

CONTENTS

- Value Engineering

STATUS

Commenced November 2020- Finished February 2021

CONTACTS:

Project Manager: Mr. A.Asgari

CLIENT CONTACTS:

Person-in-charge: Mr. Gholami Tel: 02188334010

370th Project

Khatoonabad Copper Smelter Expansion

CLIENT

CanyMes Company

DESCRIPTION

The purpose of the New Basic Design update is to consider the modernization and capacity upgrade of the Khatoon Abad smelter. The smelting capacity is increased from 80000 t/a to 120000 t/a new copper. Chapter 2 focuses on process related common issues at the new smelter, most emphasis is given on the new steam drying area and the rebuilt/modernized flash smelting furnace and the accessory equipment. The new/modified smelter areas.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced September and October 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Fakhrabadi Tel: 02184335000

369th Project

Refrigeration Package (LLDPE)

CLIENT

Sina Control Company (SCC)

DESCRIPTION

The purpose of Refrigeration Package (here after referred to as Package), is Cooling and Separating of valuable Liquids (mostly Hexene in govern case) from an existing Purge Gas stream. Purge gas rate is 1805 kg/hr.

Oil Injected Screw Type Refrigerant Compressor (C-484) as a main part of package, decrease refrigerant gas (propylene) temperature to -45 degree centigrade. Then, purge gas will be cooled to -40°C in E-484B, a special Kettle Type Exchanger. In E-484B, gas gets in touch with Propylene (two phase at temperature of -45°C), which is provided by a close Propylene Refrigeration system. During this refrigeration Hexene as a liquid phase will be separated from other gases in downstream separator.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced August 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ali Zare Tel: 07132321055

368th Project

Flare Package of Arian Petrochemical Complex

CLIENT

Masnouat Felezi Sangin Company

DESCRIPTION

AIPCECO was invited by Masnouat Felezi Sangin Company to conduct a Hazard and Operability Study (HAZOP), The purpose of constructing this Flare Package is to Burning of flaring gas in emergency cases.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced October 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ebrahimi Tel: 02144222415

367th Project

Bushehr Petrochemical Complex utility & offsite Plant

CLIENT

Petro Gas Jahan Company

DESCRIPTION

The Bushehr Petrochemical, Utility and Offsite Plant shall be located at Bandar Assaluyeh North of Persian Gulf, south of Iran. This plant includes: Utility between BUPC and Damavand Petrochemical company, Product and Feed Lines, Utility between Units inside BUPC, Natural Gas Reduction station and Metering Packages.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced September 2020

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Ghodousi Tel: 02127624000

366th Project

Ghadir Petrochemical Company

CLIENT

Ghadir Petrochemical Company

DESCRIPTION

The first phase of this project is to check the existing situation of process safety, F&G system, fire fighting systems, emergency response plan (ERP), safety of storage tanks in all process areas and to assess compliance with the latest version of the relevant standards in each field. In this phase, it is attempted to categorize all identified non-conformities by considering the mandatory components of standards. In addition, in the second phase of the project, each Identified non-conformities are prioritized and presented as a solution and a corrective proposal by considering the cost & ability of performing corrective actions. Scope of studies is included of following:

- Fire fighting systems / Fire and gas detection systems / Portable fire extinguisher equipment
- ERP (Emergency response plan)/ Hazardous area classification study/ Fire proofing

Process safety in storage tanks (Layout, Fire proofing, Dike wall, SOP, Housekeeping, Cathodic protection, Earthing & lightning, PM, Overhaul)

CONTENTS

- Fire and Safety Audit Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R.Habibi

CLIENT CONTACTS:

Person-in-charge: Mr. Rahimi Tel: 06152124000

365th Project

Damavand Petrochemical Company's Off-site and interconnecting

CLIENT

Damavand Petrochemical Company

DESCRIPTION

In this Project, the Hazards of utilities and product Piping

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)
- Hazard Identification Study (HAZID)

STATUS

Commenced August 2020

CONTACTS:

Project Manager: Mr. M.Nosrati

CLIENT CONTACTS:

Person-in-charge: Mr. Nouri Tel: 07737321002

364th Project

HDPE Unit for Soroush Mahestan Asaloyeh Complex

CLIENT

Soroush Mahestan Assaluyeh Company

DESCRIPTION

Soroush Mahestan Assaluyeh Company is responsible for development and operation of HDPE plant (Capacity: 300 KTPY) in Kangan. Feed of this unit is supplied from olefin unit. This project is in Basic phase. HDPE Plant consist following sections:

- Polymer (HDPE) Production (feeds, reactors and catalysts)
- Pelletizing and additives (stabilizers)
- Storage and Transferring Facilities (silos and hoppers)
- Black Production
- Hexane Recovery and purification
- LP Flake Production
- Utilities and Distribution Networks

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced August 2020

CONTACTS:

Project Manager: Mr. F. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Ghaiezhadeh Tel: 02188611201

363rd Project

Oxygen Feed Line of Bushehr Petrochemical Company

CLIENT

Bushehr Petrochemical Company

DESCRIPTION

One of the feeds of Bushehr Petrochemical Methanol Unit is pure oxygen, which is supplied by ASU unit. If ASU unit could not supply required oxygen for methanol unit, Damavand Petrochemical to be compensates required oxygen through pipeline. In this project, the probable hazards of pure oxygen in oxygen piping network through HAZOP study method were performed.

CONTENTS

- Hazard and Operability Study (HAZOP)
-

STATUS

Commenced September 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Behzad Hashemi Tel: 07737324343

362nd Project

RO Unit of Masjed Soleiman Petrochemical Company

CLIENT

Falat Sanat Ideh Company

DESCRIPTION

In order to reduce the raw water consumption, Masjed-Soleyman Petrochemical Industries Company (herein after referred to as "OWNER") intends to set up a "Reverse Osmosis" package (RO) for treatment of the wastewater mixture resulted from regeneration of ion exchange resins and cooling water blow down.

Cooling Blow down water is passed through cooling side stream filters (450 m³/hr) is mixed with waste of DM package (30 m³/hr) and will be introduced to UF package (480 m³/hr).

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced August 2020

CONTACTS:

Project Manager: Mr. S.Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. Kolhari Tel: 02172385783

361st Project

Isomerization (ISOM) unit of Shiraz Refinery Company

CLIENT

Jondishapour Company

DESCRIPTION

As part of this project, SORC (Shiraz Oil Refining Company) intends to implement a new Naphtha Splitter with the capacity of 6500 BPSD and a new Isomerization Unit with the capacity of 5000 BPSD in SOR (Shiraz Oil Refining Co.). The purpose of Naphtha Splitter is to separate light Naphtha from heavy Naphtha in order to feed to Isomerization unit. After Separation of light naphtha from the heavy naphtha, it enters the dryer from the top of the tower and after mixing with H₂ passing through the dryer, several preheaters and enters three reactors, in which two reactions are performed: 1-Isomerization 2-Hydrogeneration, respectively for isomerization and saturation of hydrocarbons. According to presence of HCl on reactor outlet, HCl removed by stabilizer tower and exhaust exhaust gas from the top of the Stabilizer tower will be sent to the Scrubber tower to neutralize HCL with Caustic

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)
- Safety Integrity Level Study (SIL)
- Consequence Modelling (CM)

STATUS

Commenced in 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Beheshti Tel: 02126405924

360th Project

Turbo Compressor Package of Palayesh Parsian Sepehr Complex

CLIENT

Persia Petro Gas Company (PPG)

DESCRIPTION

Compressor (C-1005) is a package of Parsian C2+ Recovery and Fractionation project that located at Assaluyeh, which totally is designed and manufactured by SBW as the vendor. This compressor is designed for compressing Ethane from 19.6 bar to 27 bar (a) for downstream applications. Turbine rated power is 2036kw.

Main parts of compressor are consist of: Sealing, Lube oil, Control Oil and Steam Turbine.

CONTENTS

- Hazard and Operability Study (HAZOP)
- SIL Assessment and SIL Verification

STATUS

Commenced March 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Bayat Tel: 02128162816

359TH Project

Modelling & Updating of Fire water/foam networks and fire fighting and cooling systems

CLIENT

Bandar Imam Petrochemical Complex

DESCRIPTION

The purpose of this project is modelling 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 estimate of all consumers such as number of hydrants, monitors, cooling systems and etc. that are in worst case scenario and also theirs flow rates and then we can start to calculate of fire water/foam networks pipe sizes. One of the most important design elements is aging phenomena in this plant that increase fire risk.

CONTENTS

- Modelling of fire fighting & cooling systems
- Design of Isometric documents
- Design of P&ID documents
- Prepare of Bid documents

STATUS

Commenced in 2021

CONTACTS:

Project Manager: Mr. R.Habibi

CLIENT CONTACTS:

Person-in-charge: Mr. Gharoni Tel: 06152255453

358th Project

Wellhead, Manifold, Pipeline and Production Operation of Sepehr-Jufair Project

CLIENT

Chagalesh Consulting Engineers Company

DESCRIPTION

Sepehr-Jufair wellheads are located in Ilam. During first phase of this oil development, 17 wells are planned to be drilled in Sepehr-Jufair field. A production rate of 36000 barrels of crude oil per day is stipulated at the end of phase 1. Wellhead facilities consist of: wellhead control system, valves, chock valves, HIPPS, stone trap, Chemical Injection system, Pig Launcher and etc. Manifold and Receiving area consist of: Pig receiving and launching system and Utility such as: Closed drain, Burn Pit, Diesel Oil, etc.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)
- SIL Study

STATUS

Commenced June 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Khalilnejadi Tel: 02188804770

357th Project

Providing Consulting Services In Transportation Safety of Pressurized Ethan Cylinders in Amirkabir Petrochemical Company

CLIENT

Amirkabir Petrochemical Company

DESCRIPTION

Given the excess production of ethane in one of the southern regions of Iran and its shortage Amirkabir Petrochemical Company, and the lack of a pipeline for its transfer, it was decided The surplus capacity of ethane that should be carried by trailers carrying ethane cylinders. This project includes the study of hazards related to trailers carrying ethane cylinders and ethane unloading facilities in Amirkabir Petrochemical Company. Amirkabir has awarded these studies to our team.

CONTENTS

- HAZOP/HAZID Study

STATUS

Commenced August 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Tayebi Tel: 06152174162

356th Project

MOTS (Mobile Oil Treatment) in Sepehr-Jofeir Oil Field

CLIENT

Chagalesh Consulting Engineers Company

DESCRIPTION

AIPCECO won the bid under the title "Consequence Modelling and HAZID Study with Fire approach for MOTS (Mobile Oil Treatment) in Sepehr-Jofeir Oil Field". This project include hazard identification, defining credible scenario, fire zone spacing, restricted area, impacted Area. In this project, in addition to above reports, fire zones layout, impacted area layout and fence location of the Station, were presented to client.

CONTENTS

- | | |
|---------------------------------------|---------------------|
| ▪ Hazard Identification Study (HAZID) | ▪ Fire Zone Spacing |
| ▪ Restricted Area | ▪ Impacted Area |

STATUS

Commenced on 20 April 2020

CONTACTS:

Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Khalilnejadi Tel: 02188804770

355th Project

Faravaresh Petrochemical Complex

CLIENT

Faravaresh Petrochemical Complex

DESCRIPTION

AIPCECO won the bid under the title Fireproofing Study for Faravaresh Petrochemical Complex (Olefin, NGL Fractionation, NGL Fractionation 3, Common Facility, Aromatic and Para Xylene 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 05 May 2020

CONTACTS:

Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Kalhori Tel: 06152251188

354th Project

Iranshahr-Cheb 56 Inch Gas Pipeline (Section 2)" Project

CLIENT

Tadbir Energy Gostar Iranian Company

DESCRIPTION

Iranian Gas Engineering & Development Company (I.G.E.D.C) has intended to construct 56" gas transmission pipeline from IGAT VII toward CHEB. In This section a 56" transmission pipeline from km. 94+000 to km. 142+000, launcher and receiver station and LBV stations will be designed and installed.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced April 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Bakhshandeh Tel: 02126216127

353rd Project

Tankage Area Facilities of Qeshm Oil Terminal in Loading and Unloading Mode

CLIENT

Shargan Consultant Engineers Company

DESCRIPTION

Qeshm Oil Terminal has been located in South of Qeshm Island in Hormozgan province. This project has been considered to Storage of Gas Condensate of south pars gas refineries and crude oil in Qeshm Oil Terminal. Therefore, part of this project is Loading/ unloading Gas Condensate and Crude Oil from/ to Bandar Abbas by 16" and SPM by 36" pipeline from/ to tank farm of Qeshm Oil Terminal. The storage area consists of 11 floating roof tanks (TK-22-01 A~K) which each capacity of them is 80000 m3 and 2 floating roof tanks (TK-22-02 A/B) which each capacity of them is 40000 m3. Concentration of H2S in Gas Condensate is around 3 ppm. Fire water system of tank farm includes 2 sea water storage tanks (around 15000 m3 each), 4 Fire Water Diesel Pump (795 m3/h) and 2 Fire Water Jockey Pump (20 m3/hr) that required water is provided by sea and it has been designed for firefighting in emergency condition. Foam Package, which is activated by LHD, has been designed for firefighting of roof of the tanks.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)
- Consequence Modelling (CM)
- Hazard Identification Study (HAZID)
- Quantitative Risk Assessment (QRA)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Saremi Tel: 02188522687

352nd Project

ASU and C/A (Chlor-Alkali) Units of Arvand Petrochemical Company

CLIENT

Arvand Petrochemical Company

DESCRIPTION

Arvand Petrochemical Co. is located at site 3 of Bandar Imam Petrochemical Special Economic Zone, on the northern coast of the Persian Gulf. This complex is composed of Chlor-alkali(CA), ethylene dichloride (EDC), vinyl chloride monomer (VCM) and polyvinyl chloride (PVC) units. Utility units consists of air separation unit (ASU), CF unit, cooling towers, Plant air and a salt washing unit. The APC complex products are NaOH 50%, chlorine gas, Sodium hypochlorite, EDC, E-PVC and S-PVC. HAZOP study has been considered for Chlor-alkali (CA) and air separation unit (ASU) to this project.

Chlor-alkali (CA) unit: Feedstock is brine with a density of 300-310 gr/lit, that is provided from Sarbandar salt pond and rate's is 1,196,000 t/y.

This unit composed of 4 sections: 1-Brine filtration and precipitation, 2-Cell room (electrolysis of sodium chloride), 3-Purification unit,

4-Wastewater treatment

Air separation unit (ASU): This unit is comprised of two trains, which each train capacity is 7,500 normal cubic meters per hour of oxygen and 7,500 normal cubic meters per hour of nitrogen. The method of air separation is Cryogenic. Produced oxygen used in EDC unit.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced May 2020

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Nekoei

Tel: 06152126114

351st Project

42 inch Mokran, 20 inch Chabahar and 16 inch Konark for Sistan and Balouchestan Gas Pipeline Project

CLIENT

Sisakht Consulting Engineers Company

DESCRIPTION

Iranian Gas Engineering & Development Company (I.G.E.D.C) has intended to construct gas transmission pipeline in Sistan and Balouchestan province, in this regard, in this project design of 42" branch to Mokran Petrochemical, 20" Chabahar power plant and Chabahar city gas pipeline and 16" Konarak power plant and city gas pipeline has been considered.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced April 2020

CONTACTS:

Project Manager:

Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge:

Mr. Amini

Tel: 02188055861

350th Project

Dehloran Petrochemical Complex

CLIENT

Energy Industries Engineering and Design Company (EIED)

DESCRIPTION

Dehloran's olefin petrochemical project has been designed to produce 700,000 tonnes per year of ethylene with 99% purity by EIED and under licensed of German LINDE. C2+ cut of NGL 3100 product will be fed by a 45km pipeline. Complex feed enters six parallel furnaces after receiving and preheating, while about 20% of the feed is converted to ethylene during the steam cracking process. Cracked gas from the furnace enters the Quench tower and then enters the Caustic Wash tower during 5 compression steps to remove H₂S. The exhaust gas enters the distillation towers after the hydrogenation reactors, which are separated by refrigeration systems in two-phase conditions and by different boiling point differences. Plant consists of auxiliary installations such as flare, cooling water system, BFW and so on.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Consequence Modelling
- SIL Study
- QRA

STATUS

Commenced March 2020

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Kolhari Tel: 02172385783

349th Project

Iranol Oil Company

CLIENT

Iranol Oil Company

DESCRIPTION

The first phase of this project is to check the existing situation of process safety, F&G system, fire fighting systems, emergency response plan (ERP), safety of storage tanks in all process areas and to assess compliance with the latest version of the relevant standards in each field. In this phase, it is attempted to categorize all identified non-conformities by considering the mandatory components of standards. In addition, in the second phase of the project, each Identified non-conformities are prioritized and presented as a solution and a corrective proposal by considering the cost & ability of performing corrective actions.

Scope of studies is included of following:

- Fire fighting systems / Fire and gas detection systems / Portable fire extinguisher equipment
- ERP (Emergency response plan)/ Hazardous area classification study/ Fire proofing

Process Safety in storage tanks (Layout, Fire proofing, Dike wall, SOP, Housekeeping, Cathodic protection, Earthing & lightning, PM, Overhaul)

CONTENTS

- Fire and Safety Audit Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R.Habibi

CLIENT CONTACTS:

Person-in-charge: Mr. Heydari Tel: 02155210367

348th Project

Iranshah to Chabahar Gas Pipeline

CLIENT

Soroush Energy Pouya Company

DESCRIPTION

Iranian Gas Engineering & Development Company (I.G.E.D.C) has intended to construct gas transmission pipeline in Sistan and Balouchestan province, in this regard, in this project replacement of existing IGAT7 gas pipeline between Bampoor station and Iranshar receiver station with design of a new 30" gas transmission pipeline with 30 kilometer has been considered, also a new 56" gas transmission pipeline with 94 kilometer length has been designed from Bampoor LBV station to Iranshar.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced March 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Hosseinkhani Tel: 02188611201

347th Project

Export of West Karoon Crude Oil from Kharg

CLIENT

Sazeh Pardazi Iran Consulting Engineers Company (SPI)

DESCRIPTION

This Project involves underground transport of West Karoon super heavy oil from the storage tanks to the eastern manifold (approx. 700 m), aboveground transport of West Karoon crude oil from the eastern manifold to the Jetty area (about 2,500 meters), reconstruction of berth no.1 for exporting West Karoon crude oil and modification of berth no.3 to be used as a back-up for West Karoon crude oil exports.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced February 2020

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Talebi Tel: 02188635850

346th Project

Connecting 4 inch line from Amirkabir West Ethylene Independent Line for Feeding Ghadir Petrochemical by Hot Tap

CLIENT

Amirkabir Petrochemical Company

DESCRIPTION

In this Project, the probable Hazards of Connecting 4 inch line from Amirkabir West Ethylene Independent Line for feeding Ghadir Petrochemical by Hot Tap were studied.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Reisi Taj Tel: 06152174555

345th Project

Gurreh-Jask Pump station No.5"

CLIENT

Rahbord Energy Company. (REC)

DESCRIPTION

The Project is about transferring of 1,000,000 BPD light and heavy crude oil from Gurreh in Bushehr to Jask terminal in Hormozgan province via a 42" pipeline in 1000km. In order to achieve required pressure and oil transferring, five pump stations have been considered in specific locations to pressurize the entering fluid to reach the fluid to the next station with adequate pressure. Moreover, two trap stations including receiving / lurching facilities and required utilities will be considered along the pipeline. Pump station #5 has been located between Trap Station No1 and Trap Station No2.

Crude oil will enter to fifth station (PS#5) with pressure of 5 barg. Strainers (4+1) are provided to protect main pumps from solid particles. Main pumps discharge the crude oil from this station with 89 barg pressure. Pig Launcher/Receiver, Two balance tanks and other Utility facilities are designed specifically.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced February 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

Technical Coordinator: Mrs. E.Rezaei

CLIENT CONTACTS:

Person-in-charge: Mr. Jahani Tel: 02188605776

344th Project

Acrylonitrile (AcN) Storage and Transfer Facilities of JAM ABS & Rubbers Plant

CLIENT

Jondishapour Company

DESCRIPTION

Acrylonitrile (AcN) is one of main feed stocks of ABS/ Rubber plant which is necessary for continuous production of ABS products. Acrylonitrile (AcN) Storage and Transfer Facilities with 2x3150 m3 net capacity including all required facilities and piping have been designed in order to make it possible to store required Acrylonitrile (AcN) for ABS/ Rubber plant for approximately 16 days. Acrylonitrile (AcN) will be connected to Tie-in of ABS plant via Acrylonitrile transfer pumps.

CONTENTS

- | | |
|--|---------------------------------|
| ▪ Hazard and Operability Study (HAZOP) | ▪ Hazard Identification (HAZID) |
| ▪ Safety Integrity Level (SIL) | ▪ Consequence Modelling (CM) |
| ▪ Quantitative Risk Assessment (QRA) | |

STATUS

Commenced February 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Keshavarzi Tel: 02126405040

343rd Project

ISO TANK of Amirkabir Petrochemical Company

CLIENT

Amirkabir Petrochemical Company

DESCRIPTION

Amirkabir Petrochemical Company, one of the largest polyolefin plants in the country, produces 51,000 tons of butadiene per year which part of it is transferred to Takhte Jamshid Petrochemical Company by two ISO Tank containers with a capacity of 24 m³. These pressurized vessels are preferred choice for bulk liquid transportation due to its ease of handling, effectiveness and efficiency.

CONTENTS

- | | |
|--|---------------------------------------|
| ▪ Hazard and Operability Study (HAZOP) | ▪ Hazard Identification Study (HAZID) |
|--|---------------------------------------|

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Tayebi Tel: 06152174555

342nd Project

Fire and Gas System for DHT Plant of Esfahan Oil Refinery

CLIENT

Pars Hassas Company

DESCRIPTION

A comprehensive SIL Verification study is undertaken for the "Logic Solver of Fire and Gas System (FGS) for DHT Plant of the Esfahan Oil Refinery". The primary objective is to verify that the design of FGS Logic Solver, meet Target SIL requirements and are in conformity with the IEC-61508:2010 and IEC-61511:2016 requirements in term of Systematic Capability, Architectural Constraint and PFD calculation.

CONTENTS

- SIL Verification

STATUS

Commenced June 2019

CONTACTS:

| | |
|--------------------|-----------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Manager: | Mrs. Mahshid Alizadeh |

CLIENT CONTACTS:

| | | |
|-------------------|------------|------------------|
| Person-in-charge: | Mr. Kolaei | Tel: 07132356900 |
|-------------------|------------|------------------|

341st Project

Khash to Mirjaveh 10" Gas Transfer Pipeline and CGS of Mirjaveh

CLIENT

Tehran Ramian Company

DESCRIPTION

Iranian Engineering and Development Gas Company has intended to establish 10" gas transfer pipeline from KHASH to MIRJAVEH, and city gate station (C.G.S) in MIRJAVEH in Sistan and Baluchestan province

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced January 2020

CONTACTS:

| | |
|------------------|------------------|
| Project Manager: | Mr. R. Joharinad |
|------------------|------------------|

CLIENT CONTACTS:

| | | |
|-------------------|------------------|------------------|
| Person-in-charge: | Mr. Shahmohammad | Tel: 02188528268 |
|-------------------|------------------|------------------|

340th Project

Gurreh-Jask Crude Oil Pump station No. 4

CLIENT

Jondishapour Company. (JSH)

DESCRIPTION

The project is about transferring of 1,000,000 BPD light and heavy crude oil from Gurreh in Bushehr to Jask terminal in Hormozgan province via a 42" pipeline in 1000Km. In order to achieve required pressure, five pump stations have been considered in specific locations to pressurize the entering fluid to reach the fluid to the next station with adequate pressure. Moreover, two trap stations including receiving / lurching facilities and required utilities will be considered along the pipeline. Pump station #4 has been located between Pump Station No#3 and Trapping Station No#1. Crude oil will enter to fourth station (PS#4) with pressure of 11.7 barg. Strainers (4+1) are provided to protect main pumps from solid particles. Main pumps discharge the crude oil from this station with 87 barg pressure. Pig Launcher/Receiver, Relief Tank and other Utility facilities are designed specifically.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced August 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Hoseinpour Tel: 02126405040

339th Project

Establishment of HSE management System in Shahrvand Stores

CLIENT

Shahrvand Company

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 establishment of 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.

Internal auditing & management review

CONTENTS

- Documentation
- Risk assessment
- Determine objectives and targets and policy

STATUS

Commenced

CONTACTS:

Project Manager: Ms. S.Khosroshahi

CLIENT CONTACTS:

Person-in-charge: Mr. Faraji Tel: 02188543539

338th Project

Tehran Gas SCADA System

CLIENT

Samavat Group (STG)

DESCRIPTION

Earthquakes are one of the potential threats to the gas network. To reduce the impact of earthquake accidents, installing an automatic gas shut-off system at the reduction stations is an effective strategy. The system includes accelerator, processor, power system (UPS) sensors and gas shutoff valve (MOV).

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)

STATUS

Commenced January 2020

CONTACTS:

Project Manager: Mr. V.Hashemi
Technical Coordinator: Ms. E.Rezaei

CLIENT CONTACTS:

Person-in-charge: Mr. Ranjbar Tel: 02144960280

337th Project

Gurreh-Jusk Crude Oil Trap Stations and Terminal (LR1, LR2, TE)

CLIENT

Middle East Energy Develop Company (MEED)

DESCRIPTION

The project is about transferring of 1,000,000 BPD light and heavy crude oil from Gurreh in Bushehr to Jask terminal in Hormozgan province via a 42" pipeline in 1000km. In order to achieve required pressure, five pump stations have been considered in specific locations to pressurize the entering fluid to reach the fluid to the next station with adequate pressure. Moreover, two trap stations including receiving / lanching facilities and required utilities will be considered along the pipeline.

Trap Station No#1 is located between pump station No#4 and No#5 also Trap station No#2 is located between Pump Station No#5 and Inlet Terminal. Trap stations are similar in terms of process type and the equipment and include the main pipeline, Pig Receiver/Launcher, Relief Tank, Closed Drain Tank and other Utility. Crude oil after passing Trap Station No#2 enters to Inlet Terminal with a pressure of about 7 bar. Inlet Terminal is equipped with a filter, pressure regulator and Oil Metering devices. After Metering the crude, fluid enters into the Storage Tanks for storage and transport.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced February 2020

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Lotfi Tel: 02188765153

336th Project

Supplying feed from Flared Gas Streams to Persian Gulf Bid Boland Refinery, Basic Design & FEED Preparation project

CLIENT

Tehran Raymand Company

DESCRIPTION

Persian Gulf Bid Boland Gas Refinery intends to receive 2000 MMSCFD feed gas which is currently flared from NGL units of National Iranian South Oil Company in order to ensure the gathering, treatment and transferring them to Persian Gulf Bid Boland Gas Refinery. This project includes compressor stations, dehydration and pipeline in Aghajari, Karang, Bibihakimeh, Pazanan, Marun, Ramshir, Ragsefid and Parsi areas. This project is performed in Basic Design & FEED under supervision of PIDMCO.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)
- CM
- Hazard Identification (HAZID)
- Quantitative Risk Assessment (QRA)

STATUS

Commenced December 2019

CONTACTS:

Project Manager: Mr. R. Johari Nad
Technical Managers: Mrs. Parnian Saeedi / Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rayat Tel: 02188713941

335th Project

Gurreh-Jask Pipeline and Facilities: Pump station No.2

CLIENT

Sanat va Modiriat Iran Co. (SMI)

DESCRIPTION

Transferring of 1,000,000 BPD light and heavy crude oil from Gurreh in Bushehr to Jask terminal in Hormozgan province via a 42" pipeline length of 1000km is performing. In order to achieve required pressure, five pump stations have been considered in specific locations to pressurize the entering fluid to reach the fluid to the next station with adequate pressure. Moreover, two trap stations including receiving / latching facilities and required utilities will be considered along the pipeline. Pump station #2 has been located near to Ahram (~ Km. 148 of pipeline). Crude oil will enter to second station (PS#2) with pressure of 11.7 barg. Strainers (4+1) are provided to protect main pumps from solid particles. Main pumps discharge the crude oil from this station with 84 barg pressure. Pig Launcher/Receiver, Two balance tanks and other Utility facilities are designed specifically.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Salehi Tel: 02188322652

334th Project

Rey Sari Oil Product Transmission System Capacity Increase Project

CLIENT

Tarh O Palayesh Engineering Company

DESCRIPTION

This project has been considered in basic design phase to improve and develop facilities of pump stations and pipeline for increasing capacity of transferring oil product –Gas oil, Kerosene, Regular Gasoline and Super Gasoline-from 500000 bbl per day to 100000 bbl/day from rey (Tehran Refinery) to sari (oil product terminal). This project is included: Rey pump station, 16" Pipeline from rey station to Moghanak pump station (97 km) (this existing pipeline is out of scope of this study), Moghanak pump station, 16" pipeline from Moghanak pump station to Veresk reduction pressure station (83 km), Veresk reduction pressure station, 16" pipeline from Veresk reduction pressure station to Golpol reduction pressure station (57 km), Golpol reduction pressure station, 16" pipeline from Golpol reduction pressure station to Sari reduction pressure station (34) and Sari reduction pressure station and utility facilities for each station such as Drain system, fuel system, etc.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)
- Safety Integrity Level (SIL)

STATUS

Commenced June 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rafiei Tel: 02188718944

333rd Project

Zanjan Urea Fertilizer Project

CLIENT

Petrochemical Industries Design and Engineering Company (PIDEC)

DESCRIPTION

The project will produce 670,000 tons of ammonia a year, much of which will be consumed by the urea unit of the complex and the surplus is stored in the ammonia tank. The feed gas of this unit enters the primary and secondary reformers after hydrogenation and desulfurization, and after thermal recovery of combustion gases and shift reactors is driven to the CO₂ unit. The synthesized gas enters the Methanator Reactor after carbon dioxide separation and then enters the ammonia synthesis cycle with a three-step compressor. Ammonia vapour liquidation and liquid ammonia production is carried out by ammonia refrigeration compressor and refrigeration system. This unit has been designed by PIDECE under license from CASALE Switzerland.

CONTENTS

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced December 2019

CONTACTS:

Project Manager: Mr. R.Joharinad Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Daneshi Tel: 07132113355

332nd Project

Saba Tire Cord Company

CLIENT

Saba Tire Cord company

DESCRIPTION

The first phase of this project is to check the existing situation of process safety, F&G system, fire fighting systems, emergency response plan (ERP), safety of storage tanks in all process areas and to assess compliance with the latest version of the relevant standards in each field. In this phase, it is attempted to categorize all identified non-conformities by considering the mandatory components of standards. In addition, in the second phase of the project, each Identified non-conformities are prioritized and presented as a solution and a corrective proposal by considering the cost & ability of performing corrective actions.

Scope of studies is included of following:

- Fire fighting systems / Fire and gas detection systems / Portable fire extinguisher equipment
- ERP (Emergency response plan)/ Hazardous area classification study/ Fire proofing
- Process safety

CONTENTS

- Fire and Safety Audit Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R.Habibi

CLIENT CONTACTS:

Person-in-charge: Mr. Sazandeh Tel: 02432464484

331st Project

ARADAN Gas Compressor Station

CLIENT

Pars Consulting Engineers Group

DESCRIPTION

AIPCECO won the bid under the title "Consequence Modelling Study and Quantitative Risk Assessment of ARADAN Gas Compressor Station".

This project include hazard identification, defining credible scenario, fire zone spacing, restricted area, impacted Area and Quantitative Risk Assessment. In this project, in addition to above reports, fire zones layout, impacted area layout and fence location of the Station, were presented to client.

CONTENTS

- | | |
|--|-------------------------|
| ▪ Quantitative Risk Assessment (QRA) Study | ▪ Consequence Modelling |
| ▪ Restricted Area | ▪ Fire Zone Spacing |
| | ▪ Impacted Area |

STATUS

Commenced

CONTACTS:

Project Manager: Mr. J.Ghasemi

Technical Manager: Mr. M.Molataheri

CLIENT CONTACTS:

Person-in-charge: Mr. Asgari Tel: 02188761460

330th Project

C3/C4 Mixture Transfer Pipelines from Mahshahr Facilities to Bandar Imam Petrochemical Company

CLIENT

Sazeh Jahanpars Consortium

DESCRIPTION

The project consists of the C3/C4 mixture Transfer Pipelines from Mahshahr Facilities to Bandar Imam Petrochemical Company. Length of pipeline is 17 kilometres. This C3/C4 mixture is transferred at 35 bar and 42 ° C.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced October 2019

CONTACTS:

Project Manager: Mr. R.Joharinadnad

CLIENT CONTACTS:

Person-in-charge: Mr. Shamloo Tel: 02188556838

329th Project

Acetylene Flare Condensation project in the Butadiene Unit

CLIENT

Jam Petrochemical Company

DESCRIPTION

AIPCECO won the bid under the title "Consequence Modelling Study of Acetylene Flare Condensation project in the butadiene unit".

This project is focused on Active and Passive Fire Protection, Building Protection against Vapour Cloud Explosion (VCE) and Fire Zone Spacing.

In addition to above report, Fire Zones layout, Active Fire Protection layout, Blast wave layout and fireproofing layout were presented to client.

CONTENTS

- | | |
|---------------------|---------------------|
| ▪ Fireproofing Zone | ▪ Fire Zone Spacing |
| ▪ Firefighting Zone | ▪ Blast Study |

STATUS

Commenced October 2019

CONTACTS:

Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gholamy Tel: 07737323221

328th Project

Sarvestan and Saadat Abad oil fields and Farashband Gas Refinery

CLIENT

South Zagros Oil and Gas Production Company

DESCRIPTION

Sarvestan and Saadat Abad oil fields are located near the Sarvestan city. In this project, the oil and gas are transferred from the wells by the respective flowlines to the inlet manifold, and then the gas and oil phases are separated by two-phase separators and directed to the downstream equipment. Separated oil will be transferred via pipeline to Shiraz Refinery. Currently, gas is transferred to flare.

The other part of this project is related to Farashband gas refinery which gathers the gases from Aghar and Dalan Gas fields, and after dehydration and dew point control, combines in IGAT VI. The separated condensates are stored in storage tanks for transferring to downstream plants after stabilizing.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced October 2019

CONTACTS:

| | |
|------------------------|------------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mrs. Maryam Pourhasani |

CLIENT CONTACTS:

| | | |
|-------------------|-----------|------------------|
| Person-in-charge: | Mr. Amini | Tel: 07132314400 |
|-------------------|-----------|------------------|

327th Project

Pipeline Network to Transport Gas Condensate from PGSOC Feed Pipeline to QOT In Qeshm

CLIENT

Qeshm Oil Investment Company (QOIC)

DESCRIPTION

The current project has been defined to transfer gas condensate from South Pars to QOT (Qeshm Oil Terminal) through a new branch from existing 32" pipeline which transfer gas condensate from South Pars to PGSOC (Persian Gulf Star Oil company). The new branch is supposed to be connected to existing 16" pipeline from Hengam to Bandar abbas which is used intermittently with maximum 15 bar test pressure while the 32" pipeline operating pressure can reach 60 barg. The capacity of 16" pipeline is 400 m3/hr. Let down is supposed to be done through a globe valve on new branch and measuring will be done by a metering system. AIPCECO managed a meeting for identifying the risks of this project through HAZOP approach.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced November 2019

CONTACTS:

| | |
|------------------------|------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mr. Rahim Ahmadi |

CLIENT CONTACTS:

| | | |
|-------------------|------------|------------------|
| Person-in-charge: | Mr. Fadavi | Tel: 02188605931 |
|-------------------|------------|------------------|

326TH Project

Action Plan Development for Pardis Petrochemical Company

CLIENT

Pardis Petrochemical Company

DESCRIPTION

Pardis Petrochemical Company is the producer and supplier of ammonia and urea products, the owner of the largest ammonia and urea complex in the Middle East and one of the largest producers of these products worldwide. Large amount of the production and using top technologies, complying with environmental standards, easy access to natural gas feedstock, maritime transportation lines, having specialized storage facilities and loading jetty for exporting Urea product are parts of merits and outstanding capabilities of Pardis Complex and lead to a dazzling outlook for this company in international markets. At the moment there are 3 identical phases in operation. The For developing Emergency Action Plans based on well-established international guidelines such as CCPS (Guidelines for technical planning for on-site emergency) the below stages shall be performed (reference 4):

- Credible Scenario Screening; / Assessing Internal and External Resources;
- Credible Scenario Development; / Assessing Consequences and Impacts
- Developing Appropriate Response Strategies.

CONTENTS

- ERP Study

STATUS

Commenced January of 2020

CONTACTS:

Project Manager: Mr. B. Abdolhamidzade

CLIENT CONTACTS:

Person-in-charge: Mr. Shabanzadeh Tel: 07737323305

325th Project

Shahid Tondgooyan Petrochemical Company

CLIENT

Shahid Tondgooyan Petrochemical Company

DESCRIPTION

AIPCECO was invited by Shahid Tondgooyan Petrochemical Company to conduct a Fireproofing Study and Fire Zone Spacing. 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
- Fire Zone Spacing

STATUS

Commenced October 2019

CONTACTS:

Project Manager: Mr. J.Ghasemi

Technical Manager: Mr. Meysam Ghaviandam

CLIENT CONTACTS:

Person-in-charge: Mr. Oshtad Tel: 06152172048

324th Project

New Bypass Facilities for Check Valve on Export Methanol Product line of Kimiya Pars Khavarmiyaneh Petrochemical Company

CLIENT

Middle East Kimiaye Pars Company

DESCRIPTION

In this project, the probable hazards related to using of bypass facilities for check valve on 14" Methanol export line in offsite unit Middle East Kimiaye Pars during start-up were analyzed and studied.

CONTENTS

- (Mini) Hazard and Operability Study (HAZOP)

STATUS

Commenced August 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Lame Tel: 02122382170

323rd Project

BOG System of Propane Storage Tank of Parsian Sepehr Gas Refinery

CLIENT

Hampa Energy Engineering and Design Company (HEDCO)

DESCRIPTION

Parsian Sepehr Gas Refinery located at Assaluyeh has two Cryogenic Storage Tanks, each with the capacity of 15000 ton propane, which have been designed for storage of propane at 1.11 bara operational pressure and -41.28°C temperature. For condensation of outlet vapor from the tank, an Oil-Flooded Dual-Rotor Screw Compressor and set of Heat Exchangers with propane as refrigerant will be used. The above mentioned BOG system returns the propane condensates to tank at 1.12 bara and -46.5 °C. For separation of oil from propane, a two phase separator at compressor discharge with special filters have been considered in order to decrease the oil content down to 0.04 ppmw.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced August 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

322nd Project

Persian Gulf Bid Boland gas treating project part B- Acid Gas & Sales Gas Pipeline and Facilities

CLIENT

Tehran Jonoob Technical & Construction Company

DESCRIPTION

Persian Gulf Bid Boland Gas Refinery (Bid Boland II Gas Refinery) is located 18 kilometers north of Aghajari, 32 kilometers west of Behbahan and 35 kilometers east of Miankoh in Khuzestan province. Sales Gas pipeline and Acid Gas pipeline (composed of more than 95% CH₄ gas) branched from Bid Boland II (BBII) as follows design condition:

48" Sales Gas pipeline has been designed for transferring gas from unit 405 of Bid Boland II Gas Refinery to unit P-61 unit, with 14 km length, equipped with 2 LBVs along the pipeline and a Launcher and a Receiver at the beginning and end of the pipeline. Operating pressure, temperature and flow rate are 73.5 barg, 53.5 °C and 1392982 Kg/hr respectively while the surplus gas will be sent to IGAT-I.

20" Acid Gas pipeline has been designed for transferring gas with 400ppm H₂S from Unit 407B of Bid Boland II Gas Refinery after Filtration Unit to Aghajari Injection Gas station, with 48 km length, equipped with 5 LBVs along the pipeline and a Launcher and a Receiver at the beginning and end of the pipeline. The operating pressure, temperature and flow rate are 110 barg, 55.7 °C and 345904 Kg/hr respectively.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Dehghan Tel: 02188065494

321st Project

GUM Removal Project from Arak PG feed to PGH Plant of Tabriz Petrochemical Plant

CLIENT

Namvaran Pazhouhesh va Tose-a Company

DESCRIPTION

One of the operational problems of Tabriz Petrochemical Plant is gum formation which causes plugging in downstream facilities such as filters, strainers and heat exchangers. TPC specialists have found that if they remove the Hexane from the unit 200 feed, the gum formation will be minimized. In this regard a project for increasing capacity of Dehexanizer unit was defined. The Namvaran Pazhouhesh va Tose-a research and development company has awarded the project. Tower 104 (New Dehexanizer) receives 11.87 m³/hr feed from Depentanizer bottom with APG from Arak Petrochemical and removes hexane at (130-70 °C) in near atmospheric pressure condition.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level Study (SIL)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R.Joharinad Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Aligoli Tel: 02146052903

320th Project

HDPE, OLEFIN, Utility and offsite of Ilam Petrochemical Company

CLIENT

Ilam Petrochemical Company

DESCRIPTION

It was decided by Ilam Petrochemical Company to do a series of comprehensive HAZOP and SIL studies in order to integrate previous studies and cover missing points. The SIL study is going to implemented via SIL assignment and SIL verification. Studies will be perform for HDPE plant, Olefin plant, SRU and utility sections which are comprises different units such as Boiler, Hydrogen Generation, Power Generation and Cooling Water System.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Safety Integrity Level (SIL)
- SIL Verification

STATUS

Commenced

CONTACTS:

Project Manager: Mr. F.Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Ramezani Tel: 08433360782

319th Project

Ethane Pipeline from Persian Gulf Bid Boland Gas Treating Plant to Gachsaran Petrochemical Plant

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

- Hazard Identification Study (HAZID)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ramezani Tel: 02188304801

318th Project

Parsi Separation and Compressor/ Pump Station (ABSILAB Station - Crude Oil Production Unit)

CLIENT

Binak Mechanic Company

DESCRIPTION

The National Iranian South Oil Company (NISOC) intends to establish the project of wellhead cluster separation, compression and pump station (AB-SILAB Unit). The Project includes detail design and construction of oil/gas separation, pump station, compression station facilities and transferring pipelines. Total capacity of oil is 36 MBD (water cut 5 to 50 percent) and gas rate is 43 MMSCFD. Separated oil and gas will be transferred via pipeline to PARSi cluster and CS-400 Parsi, respectively.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced June 2019

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Biabani Moghada Tel: 02188615537

317th Project

Utilities and Offsite of Mokran Petrochemical Complex-Stage

CLIENT

Namvaran Pazhouhesh va Tose-a Company

DESCRIPTION

This project is Consist of hazard potential of Utilities and Offsite of Mokran Petrochemical Complex-Stage 1 by HAZID study.

CONTENTS

- HAZID Study Report

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Karimi Tel: 02188337455

316th Project

Chlorine Unloading Facilities (from 1 ton cylinders to 90 ton storage tank)

CLIENT

Karun Petrochemical Company

DESCRIPTION

Karun petrochemical Co. currently receives 8 tons per hour chlorine from Arvand Petrochemical Co. through process piping for production of one of its products. In order to compensate probable decreased/ cut-off of chlorine feed from supplier, it has been intended to equip an unloading and supply station for portable chlorine cylinders. In the primary phase of the project, a single train with the capacity of 10 cylinders is going to be constructed and operated in order to analyze the feasibility and operational trouble-shooting and will be extended to three trains in case of success of first phase. Emptying of liquid chlorine from cylinders is done via 12 bars nitrogen supply through a specific header containing parallel branches for simultaneous unloading of cylinders. Regarding the specific hazards of chlorine, the technical and execution capacity of AIPCECO was hired for managing the identification of process and non-process hazards of the facilities.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification (HAZID)

STATUS

Commenced July 2019

CONTACTS:

Project Manager: Mr. Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gharadaghi Tel: 06152122750

315th Project

30 & 20 Inches Gas Transmission Pipeline from Bidboland to Gachsaran

CLIENT

Petro Sadian-Tehran Berkeley Company

DESCRIPTION

According to necessity of supplying natural gas for Behbahan city, Gachsaran city, Behbahan power plant, Behbahan cement plant, Ati power plant and Gachsaran petrochemical plant, it was decided to construct transmission facilities. Therefore, a 30 inches pipeline receives natural gas from Bidboland gas compressor station, which is located on IGAT I, and after 46 kilometer of passage deliver it to Behbahan sector (Tehran Berkeley scope of design). In this section gas is supplied to Behbahan city and power plant. Remaining gas is transferred through a 20 inches pipeline from Behbahan sector to Gachsaran sector (Petro Sadian scope of design). This part of pipeline continued for 70 kilometers and delivers natural gas to other end users. In this project hazard identification and risk assessment is performed by HAZOP and HAZID methodologies.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. F. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. Javadi Tel: 02188747300

314th Project

JASK Crude Oil Storage Tanks Project

CLIENT

Petro Omid Asia Company

DESCRIPTION

National Iranian Oil Engineering and Construction Company (NIOEC) intends to establish JASK Crude Oil Storage Tanks. In this project Heavy / Light Crude oil (1MMBD) will be received from JASK Terminal via two 42" pipes and will be stored in 20 Storage tanks (500,000 BBL each). Three Pump stations (10,000 m³/h each) transfer crude oil to three 48" SPM headers. Also each pumps station will be capable of transferring Heavy / Light Crude oil from SPM headers to storage tanks and vice versa. Moreover, piping system designed for transferring crude oil from each tank to another tank and transferring crude oil from Goreh pipeline to SBM directly. This JASK Crude Oil Storage Tanks include the following units:
Crude Oil Storage Tank, Raw Water Storage Tank, Diesel Storage Tank, Closed Drain Vessel, Drain Crude Sump, Waste Water Treatment Package, Raw Water Treatment Package, Diesel Generator Package for Power Plant, Recycle Oil Tank, Elevated Water Storage Tank, Jet Mixer Package.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Beiki Tel: 02126602871

313th Project

JASK Terminal, SPM & Marine Facilities

CLIENT

Consortium of Soroush Energy Poya and Tarh-e-Nowandishan Company

DESCRIPTION

National Iranian Oil Engineering and Construction Company (NIOEC) intends to establish offshore terminal and marine facilities in JASK. The objective of project is to transfer one million barrels of crude oil per day via subsea pipelines, SPM and relevant facilities. According to project requirements, there are three Single Buoy Moorings (SBMs) with three sets of transferring pipelines and metering packages. All sets can be operated simultaneously. Light and heavy crude oils are unloaded from ULCC/VLCC (tanker) to the storage area or vice versa. The tanker is equipped with transfer pumps which supply required pressure for transferring the fluid to the target storage tanks. The fluid is to be unloaded from tanker through two 36" undersea and underground pipelines with maximum length of 7820 m. This offshore terminal and marine facilities include the following units.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced June 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Vosughifar Tel: 02188334010

312th Project

32" Sour Gas Feed Pipeline between Phase 14B and Phase 12 of South Pars Gas Refinery

CLIENT

Borna Tadbir Behta Company

DESCRIPTION

According to finishing construction of offshore platforms in phase 14 and unfinished onshore construction of this phase facilities in South Pars Gas field, it was decided to make a temporary connection between offshore pipeline 14B and phase 12 onshore facilities. This connection was allowed through a 5km of 32 inches sour gas pipeline. Piping connections and pipeline routs which crosses with roads, other live pipelines and corridors causes new risks. Hazard related to these changes was identified through HAZOP & HAZID methods and required actions were recommended.

CONTENTS

- Hazard and Operability Study (HAZOP)
- Hazard Identification Study (HAZID)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ghamati Tel: 02126602550

311th Project

Flare Recovery and Desulfurization Facilities of Bank G of Maroun 3 Plant

CLIENT

Hirbod Niroo Company

DESCRIPTION

The gradual increasing H₂S content of underground reservoirs at the upstream of Maroon 3 facilities has led the downstream consumer unit (NGL) to unable receive gas. This led to transfer of gasses from Maroon 3 Separators to Flare, which, in addition to severe environmental pollution, also led to a loss of gas. The project is based on this basis, and the gas utilization unit G was used to sweeten this gas. In this project a comprehensive HAZOP study was performed for flare gas recovery of Maroon3's G banks. Feed of Flare Gas Recovery (FGR) unit is supplied through two 8 inches pipes from Maroon's 1st and 2nd stage separators. The FGR unit is composed of two main sections, one Reciprocating compressor package and a fixed bed sweetening unit. At the end the product is transferred to NGL-400 through a sweet gas pipe at 40 barg pressure.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Afzali Tel: 02188525250

310th Project

Ethane Pipeline and Metering facilities from Bid Boland II (Part B) to NF Unit of Bandar Imam Petrochemical in Mahshahr Especial Zone

CLIENT

Maroun Mechanic Company

DESCRIPTION

The project consists of the Ethan gas transfer pipeline and 4 metering packages. The length of the pipeline is 17 Km and this pipeline will be designed to be capable for transferring 75000 (kg/hr) at maximum 25 bar Ethane in the gas phase.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Amini Tel: 88704430

309th Project

Improve the Safety Situation at the raw Materials and Product Warehouses

CLIENT

Arvand petrochemical Complex

DESCRIPTION

The first phase of this project is to check the existing status of safety and firefighting, health and environment in warehouses of raw materials, equipment and PVC 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 each Identified cases are prioritized and presented as a solution and a corrective proposal by considering the ability of performing corrective actions and cost of eliminating non-compliances. In addition, in the second phase of the project all of the identified non-conformities are omitted by engineering designs, revise and issue of HSE documents. 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

- | | |
|--|---|
| ▪ Fire fighting Study | ▪ Hazardous area classification Study |
| ▪ Fire and gas detection system | ▪ Chemical materials storage layout |
| ▪ Portable fire extinguisher equipment | ▪ Safety signs, escape route and muster point layouts |

STATUS

Commenced April 2019

CONTACTS:

Project Manager: Mr. R.Habibi

CLIENT CONTACTS:

Person-in-charge: Mr. Chehrazi Tel: 061-52126661

308th Project

Laleh Petrochemical Company

CLIENT

Laleh Petrochemical Company

DESCRIPTION

The present project is defined for analyzing hazards of 94 job titles of Laleh Petrochemical company. 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.

CONTENTS

- Job specifications including PPE, Training, Periodic examination and required procedures
- JHA worksheets

STATUS

Commenced in April 2019

CONTACTS:

Project Manager: Ms. S. Lahijani Khosroshahi

CLIENT CONTACTS:

Person-in-charge: Mr. Banisaeid Tel: 06152122912

307th 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

306th Project

Aban Oil Field Development and Paydar West Project

CLIENT

Tehran Raymand Consulting Engineers 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

305th 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

304th 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
- HAZID Study
- Consequence Analysis Study

STATUS

Commenced in April 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zaman Zade Tel: 02122269217

303rd 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

CLIENT CONTACTS:

Person-in-charge: Mr. Sameri Tel: 06152122819

302nd 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

CLIENT CONTACTS:

Person-in-charge: Mr. Adibi Tel: 02188364512

301st 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

300th 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

299th 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

298th 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
- FMEA Procedure
- Technical Specifications of SIGMA 1-14 Centrifugal
- Components of the SIGMA 1-14 centrifuge

STATUS

Commenced

CONTACTS:

Project Manager: Ms. S.Khosroshahi

CLIENT CONTACTS:

Person-in-charge: Mr. Jafari Tel: 02188500481

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. 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.Haghibin

CLIENT CONTACTS:

Person-in-charge: Mr. Ostovar Tel: 04442516515

295th 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

294th 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 24.1bara, 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

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Commenced January 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Moghadamali Tel: 021-81969033

293rd 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 sulphur 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Sh. Zare Tel: 07132321055

292nd 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 supplying 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

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Commenced September 2019

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Hamid Tel: 02181444310

291st 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 (3915kg/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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced December 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

290th 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced: December 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ghanavati Tel: 07727324411

289th 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced: December 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Mortazavi Tel: 02188878301

288th Project

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

CLIENT

Scetiran 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

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Commenced: December 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zolfaghari Tel: 021-88050154

287th Project

**Basic design and supervision services for Khormooj and
Abpakhsh BGCS-IGATVI**

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

- Hazard and Operability Study (HAZOP)
- HAZID Study
- QRA Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

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

286th Project

Distance between the new acid storage tank and adjacent equipment

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 Modelling 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 Modelling (CM)
- DOW Study

STATUS

Commenced on 2018 12 22

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Zeidabadinejad Tel: 03434302701

285th Project

Central Waste Water Unit of Bandar Imam Petrochemical

CLIENT

Mojan Engineering Company

DESCRIPTION

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 & RO units. The treated water is delivered with appropriate specification such as TDS, TSS, BOD, COD, etc.

CONTENTS

- Hazard and Operability Study (HAZOP)

STATUS

Commenced: October 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Ms. Hosseini Tel: 021-274570

284th Project

Ethane and Ethylene Storage Tanks and Pyrolysis Gasoline Loading/
Raffinate Unloading Facilities for Amir Kabir Petrochemical Complex

CLIENT

AmirKabir Petrochemical Complex

DESCRIPTION

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.

CONTENTS

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Commenced: November 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Rashidi Tel: -06152174555

283rd 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: Aug 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Shokri Tsel: 02128162816

282nd 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

281st 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

- Hazard and Operability Study (HAZOP)
- 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

279th 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 Study (HAZOP)
- SIL Verification
- SIL Assessment

STATUS

Completed

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

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

278th 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced

CONTACTS:

Project Manager: Mr. F. Abiri

CLIENT CONTACTS:

Person-in-charge: Mr. S. Abbasi Tel: 02183394000

277th 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 Trunk 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced: September 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

276th 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

Ethane Feed Pipeline between Persian Gulf Bid Boland Gas Treating Plant and Gachsaran Petrochemical Plant

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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Valadkhani Tel: 06152132041

274th Project

**C2+ Pipeline from Mohr Site to Assaluyeh Site-Parsian Sepehr
C2+ and Fractionation 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

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Finished

CONTACTS:

Project Manager: Mr. V.Hassemi

CLIENT CONTACTS:

Person-in-charge: Mr. M. Amini Tel: 02188055861

273rd 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:

Person-in-charge: Mr. Khaligh Fard Tel: -02188795835

272nd 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. Parnian Saeedi

CLIENT CONTACTS:

Person-in-charge: Mr. Sadeghi Tel: 02188337455

271st Project

Effluent Treatment Plant-VOC Gases Treatment of Marun Petrochemical

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

- Hazard and Operability Study (HAZOP)
- Safety Study

STATUS

Commenced: June 2018

CONTACTS:

Project Manager: Mr. R. Habibi

CLIENT CONTACTS:

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

270th Project

Pardis Petrochemical Complex

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

269th 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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Dehghani Tel: 02188065494

268th 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. Kiyaninejad Tel: 25549284

267th Project

Mahshahr Terminal Sulphur Export Jetty

CLIENT

Omran Sahel Company

DESCRIPTION

This project is consist of 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 Tel: 02138543559

266th Project

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

CLIENT

Tarahan va mojrian Farayand Bokhar

DESCRIPTION

Bid Boland Company decided to purchase one boilers 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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Ms. Ensieh Shokri Tel: 02188690607

265th 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 Modelling 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 Modelling (CM)

STATUS

Commenced: November 2018

CONTACTS:

Project Manager: Mr. J.Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Tayebi Tel: 06152174555

264th 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 modelling 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 their 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 modelling of old systems to know about pressure and flow rate of each system.

CONTENTS

- Modelling of present fire fighting & cooling systems
- Design and Modelling of new fire fighting & cooling systems
- Updating of fire fighting and 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

263rd Project

Steam Generation Unit of Persian Gulf Bid Boland Gas Treating Plant

CLIENT

Azarab Industries Company

DESCRIPTION

Bid Boland Company decided to purchase 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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Finished

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Borhani Tel: 08633136200

262nd Project

CO₂ Compressor Package of MEG Unit of Bushehr Petrochemical Company

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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced February 2018

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

261st Project

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

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

- Hazard and Operability Study (HAZOP)

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

- Hazard and Operability Study (HAZOP)

STATUS

Completed November 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gashas Tel: 06152252381

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

- Hazard and Operability Study (HAZOP)
- 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

257th Project

MTBE unit and Utility unit of Bandar Imam Petrochemical Complex

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

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Portable fire extinguisher equipment layout ▪ Data sheet for portable fire extinguishers ▪ Data sheet for bondboxes | <ul style="list-style-type: none"> ▪ 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

256th Project

Confidential

CLIENT

-

DESCRIPTION

-

CONTENTS

-

STATUS

-

CONTACTS:

Project Manager: -

CLIENT CONTACTS:

Person-in-charge:-

Tel: -

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. Gashass

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

- Hazard and Operability Study (HAZOP)

STATUS

Completed December 2017

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. S. Taghavifar Tel: 021-22382521

253rd 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

- Hazard and Operability Study (HAZOP)

STATUS

Completed May 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

252nd Project

Pasargad Oil Company

CLIENT

Pasargad Oil Company

DESCRIPTION

AIPCECO invited by Pasargad Oil Company (POC) to carry out Fire and Explosion Risk Assessment in Pasargad 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

251st Project

Ethylene Let down 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced Octobe 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Nekoei Tel: 09163090896

250th Project

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

CLIENT CONTACTS:

Person-in-charge: Mr. A.Gashas Tel: 09163138380

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

- Hazard and Operability Study (HAZOP)
- 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. Parnian Saeedi

CLIENT CONTACTS:

Person-in-charge: Mr. M.Esamaeili Tel:07737323221-5-(2745)

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.Lahijani 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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced Aug 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Forouzanmehr Tel: 021-22565040

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 $81 \text{ m}^3/\text{h}$ and 23 km length, and also a sweet gas pressure reducing station with the capacity of $110000 \text{ Nm}^3/\text{h}$. 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

- Hazard and Operability Study (HAZOP)
- HAZID Study
- SIL Study
- QRA

STATUS

Commenced August 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Ms. A. Karimi Tel: 021-27624690

243rd 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 $80 \text{ MM Sm}^3/\text{day}$ 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
- SIL Verification
- Development of SRS

STATUS

Commenced July 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Pasalari Tel: 071-32136000

242nd 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 modelling method. Also, standard and credible specification were used for determining the safe location.

CONTENTS

- Consequence Modelling

STATUS

Commenced Jul 2017

CONTACTS:

Project Manager: Mr. J. GHasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ghanavati Tel: 09163545917

241st 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

- Hazard and Operability Study (HAZOP)

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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Commenced

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Ms. Monshi Tel: 021-22646501

239th 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 cases are 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

238th 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:

Person-in-charge: Mr. Gashas Tel: 061-52253315

237th 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/ Gashas Tel:09166537302/
09163138380

236th 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

- Hazard and Operability Study (HAZOP)
- 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

- Hazard and Operability Study (HAZOP)
- 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

- Hazard and Operability Study (HAZOP)

STATUS

Completed May 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Ms. Shahidiani Tel: 0615-2255410

233rd 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

232nd 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

- Hazard and Operability Study (HAZOP)
- SIL Study

STATUS

Completed June 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Saboori Tel:021-26126088

231st 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

230th 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

229th Project

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. S.khosroshahi

CLIENT CONTACTS:

Person-in-charge: Ms. Mirshafiee Tel: -

228th Project

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

- Hazard and Operability Study (HAZOP)

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

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

- Hazard and Operability Study (HAZOP)
- SIL Assignment Study

STATUS

Completed October 2016

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

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

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 Commissioning Phase
- HAZID Study in Construction Phase

STATUS

Completed February 2017

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ahmadpour Tel: 021-88948695

223rd Project

Loading LPG in Tombak Service and Export Port

CLIENT

Omran Sahel Company

DESCRIPTION

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.

CONTENTS

- Quantitative Risk Assessment (QRA)

STATUS

Commenced January 2017

CONTACTS:

Project Manager: Mr. J. Ghasmi

CLIENT CONTACTS:

Person-in-charge: Mr. Mehdikhani

222nd Project

South Pars Gas Refineries I & II Common Corridor

CLIENT

Borna Tadbir Company

DESCRIPTION

Pars I&II Common Corridor has been designed for transferring Ethane, Start-up Fuel Gas, Siri-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&3 to Pars Petrochemical. The studies were performed at the of P.O.G.C office.

CONTENTS

- Hazard and Operability Study (HAZOP)
- HAZID Study

STATUS

Commenced January 2017

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Niknafs Tel:021-26602550

221st 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

- Hazard and Operability Study (HAZOP)
- 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 EPE (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

- Hazard and Operability Study (HAZOP)

STATUS

Finished

CONTACTS:

Project Manager: Mr. R. Johari nad

CLIENT CONTACTS:

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

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

- Hazard and Operability Study (HAZOP)

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

- Hazard and Operability Study (HAZOP)

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

- Hazard and Operability Study (HAZOP)

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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced May 2016

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Esmaeilvandi Tel: 09131266375

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

- Hazard and Operability Study (HAZOP)
- HAZID Study
- SIL Study
- QRA Study

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

- Hazard and Operability Study (HAZOP)

STATUS

Commenced September 2016

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Maleki Tel: 071-32305591

213th Project

Esfahan Oil Refinery DHT Unit

CLIENT

NARGAN Company

DESCRIPTION

This project consists of HAZOP for packages including Nitrogen Production unit with Pressure Swing Adsorption, Chemical Injections, Fired Heaters, Thermal Incinerator, Sulphur 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.

CONTENTS

- HAZOP Study
- SIL Assignment Study

STATUS

Commenced October 2016

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. B. Ghasemi Tel: 021-88948695

212th Project

Construction of Refrigeration Unit of Bidboland Refinery in BIPC

CLIENT

Bandar Imam Petrochemical Company

DESCRIPTION

In this project, fire zone spacing has been determined using consequence modelling 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.

CONTENTS

- Safety Studies

STATUS

Finished

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. A. Mousaviun Tel: 09166523212

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. Gashas/ 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

209th Project

Faravaresh Petrochemical Complex

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, Basparan, 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 Tel: 22542090
Mr. Hodaei

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 Study

STATUS

Completed May 2015

CONTACTS:

Project Manager: Mr. Vahid Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Esmaeilzadeh Tel: 0912127216

205th 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

204th 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

203rd 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

CLIENT CONTACTS:

Person-in-charge: Ms. Kia Tel: 09128239921

202nd 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

200th Project

Iran Oman Gas Pipeline

CLIENT

Tehran Raymand Consulting Engineers Company

DESCRIPTION

Construction and development of gas transportation facilities is necessary to deliver of 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.

CONTENTS

- Consequence Modeling (CM)
- Quantitative Risk Assessment (QRA)
- HAZOP Study
- RAM Study
- SIL Study
- Hazid Study

STATUS

Completed

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Behbahani Tel: 09125390312

199th Project

LTE Splitting Unit of Noori Petrochemical Complex

CLIENT

Sazeh Consultants Engineering & Construction

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 150,000KG/H which is split into 45000 KG/H Heavy Ends as Splitter Bottom Product and 105 KG/H Light Ends as Splitter Top Product.

CONTENTS

- HAZOP Study
- SIL Study

STATUS

Commenced January 2016

CONTACTS:

Project Manager: Mr. V.Hashemi

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

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

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 sulphur 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 turndown 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)
- Hazard Identification (HAZID)
- Quantitative Risk Assessment (QRA)
- 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. Ahang Tel: 88799771

194th 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

CLIENT CONTACTS:

Person-in-charge: Mr. Mousavion Tel: 065-52254495

193rd 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

CLIENT CONTACTS:

Person-in-charge: Mr. Ghodsi Tel: 0711-2273133-40

192nd 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

191st 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

Feed and Products Transmission Pipelines Corridor, Storage Tanks & Loading/Unloading Facilities for Mokran Petrochemical Complex.

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 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)
- SIL Study

STATUS

Commenced August 2015

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Seyyed Tel: 88338353

189th Project

VC, CA and MTBE Unites in Kimia Petrochemical of BIPC

CLIENT

Kimia Petrochemical Complex-BIPC

DESCRIPTION

Regarding to poor fireproofing or no fireproofing of Kimia Petrochemiucal, 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

CLIENT

Kimia Petrochemical Complex-BIPC

DESCRIPTION

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.

CONTENTS

- Blast Study for VC Plant

STATUS

Commenced 23 July 2015

CONTACTS:

Project Manager: Mr. J. Ghasemi

CLIENT CONTACTS:

Person-in-charge: Mr. Moosavion Tel: 09166523212

187th Project

Ammonia Unit and Offsite Facilities of Lavan Petrochemical Complex

CLIENT

Hampa Energy Engineering & Design Company

DESCRIPTION

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.

CONTENTS

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

STATUS

Commenced August 2015

CONTACTS:

Project Manager: Mr. R. Johari Nad

CLIENT CONTACTS:

Person-in-charge: Mr. Pourzarabi Tel: 07132136431

186th 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

185th 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

183rd 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

182nd Project

NF3 Plant in Faravaresh Petrochemical of BIPC

CLIENT

Faravaresh 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

CLIENT CONTACTS:

Person-in-charge: Mr. Jamshidnezhad Tel: 06152253335

181st 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

CLIENT CONTACTS:

Person-in-charge: Mr. Torabi (Project Manager) 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. Amirhasemi 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 |
|-------------------|------------------------------|------------------|

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:

| | |
|------------------|---------------|
| Project Manager: | Mr. V.Hashemi |
|------------------|---------------|

CLIENT CONTACTS:

| | | |
|-------------------|--------------|------------------|
| Person-in-charge: | Mr. Alizadeh | Tel: 06152252696 |
|-------------------|--------------|------------------|

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 Sulphur. 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) | ▪ Reliability, Availability, Maintainability (RAM) |
| ▪ HAZard IDentification (HAZID) | ▪ Noise Study |
| ▪ Safety Integrity Level (SIL) | |

STATUS

Commenced July 2015

CONTACTS:

| | |
|------------------------|---------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical Coordinator: | Mrs. Sara Tasharofi |

CLIENT CONTACTS:

| | | |
|-------------------|--------------|---------------|
| Person-in-charge: | Mr. Jazayeri | Tel: 22982970 |
|-------------------|--------------|---------------|

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 |
|------------------|---------------|

CLIENT CONTACTS:

| | | |
|-------------------|-------------------|---------------|
| Person-in-charge: | Mr. NejadMalayeri | Tel: 88799771 |
|-------------------|-------------------|---------------|

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

173rd 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

172nd 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

171st 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) | ▪ Quantitative Risk Assessment (QRA) |
| ▪ HAZard IDentification (HAZID) | ▪ Emergency Response Planning (ERP) |

STATUS

Commenced February 2015

CONTACTS:

| | |
|------------------|---------------|
| Project Manager: | Mr. V.Hashemi |
|------------------|---------------|

CLIENT CONTACTS:

| | | |
|-------------------|-----------------|---------------|
| Person-in-charge: | Mr. R. Abbasian | Tel: 88824370 |
|-------------------|-----------------|---------------|

169th Project

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

CLIENT CONTACTS:

Person-in-charge: Mr. Sh. Ghasemi Tel: 09131841757

168th Project

Mercaptans Odor Tolerability Analysis in Odorant Production Plant

CLIENT

Jahan Pars Company

DESCRIPTION

A Mercaptans Odor Tolerability 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 Sulphur 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 feed 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)

166th 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

165th 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

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. Khoshbazzm

CLIENT CONTACTS:

Person-in-charge: Mr. T. Alipour ((Project Manager)) Tel: 0513-37625006

163rd 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

CLIENT CONTACTS:

Person-in-charge: Mr. Kiani Tel: 06152122686

162nd 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 exisiting 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)
- HAZard 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

161st 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

160th 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 PIDECE 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

159th 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

158th 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, CO₂, 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
- CO₂ Compressor Package: NEWJCM Company from China

CONTENTS

- HAZard and OPerability (HAZOP)

STATUS

Commenced May 2014

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Sa'adati (Project Manager) Tel: 09126968360

156th 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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

Person-in-charge: Mr. Sh. Abdali (Managing Director), Tel: 07825112321
Mr. J. Sohrabtaash (Project Supervisor)

153rd 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

CLIENT CONTACTS:

Person-in-charge: Mr. Hashemi (Project Manager) Tel: 09123147336

152nd 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 (ASSALOUYEH) Bushehr Province. The plant is constructed on 72 hectares of land on the Persian Gulf 270 km. southeast of port of Bushehr and 270km 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

CLIENT CONTACTS:

Person-in-charge: Mr. Amjadi (Head of Safety department) Tel: 021-85921202

151st Project

Sepehr Tower of Saderat Bank of Iran

CLIENT

Saderat Bank of Iran

DESCRIPTION

Sepehr Tower with 115 meter height, 33 floors and an area of 55000 m2 is one of the tallest buildings in Tehran.

High level of safety criteria needs to be considered in high rise buildings due to significant occupant load.

"HAZARD Identification and Emergency Response Planning in Sepehr Tower of Saderat Bank" project aims to identify probable accidents in the Tower and planning for Emergency Response. This project is planned in four main phases. The first phase of this project is analysis of general safety and fire related subjects in the building by GAP Analysis method. In the second phase, Hazard Identification will be conducted by HAZID method and risk assessment. The third phase is preparation of Emergency Response Plan which will be used as a reference for cooperation with the Client in holding a fire drill in the fourth phase.

CONTENTS

- HAZard IDentification (HAZID)
- ERP
- Cooperation with the Client to hold a fire drill
- Gap Analysis

STATUS

Commenced November 2014

CONTACTS:

Project Manager: Ms. Sh. Shaker

CLIENT CONTACTS:

Person-in-charge: Mr. Hamed Youneszadeh Tel: 02188318878

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 Pars 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 Department) 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

146th 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)

145th 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

144th 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

143rd 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 $H_2S < 80$ 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

142nd 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

CLIENT CONTACTS:

Person-in-charge: Mr. H.A. Darvishi (Head of HSE Department)

141st 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

CLIENT CONTACTS:

Person-in-charge: Mr. Davudabadi (Proj. Mgr.) Tel: 88662313

140th Project

West Ethylene Pipeline Compressor Stations

CLIENT

Oil Turbo Compressor Construction Company (OTCC)

DESCRIPTION

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.

CONTENTS

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

STATUS

Commenced: June 2013

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. M. Esmaeli Tel: 09124265937

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 phase 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

- SIL Determination Study

STATUS

Completed October 2013

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. D. Panahi Tel: 27624373

138th Project

Haftkel Production Unit

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)
- Cluster Consist Of Inlet Lines, Fuel Gas, Fire Water, Air, Closed Drain System, Corrosion Inhibitor, Anti Foam Injection, Cold Flare And Separators. Production Unit Consist Of Inlet Lines, Fuel Gas, Fire Water, Air, Closed Drain System, Corrosion Inhibitor, Anti Foam Injection, Cold Flare, MP/HP/LP Flare, Production Tank, Degassing Tank, Methanol Injection And Oil Stripper.
- HCS Unit Consists of HP and LP Compressors.

CONTENTS

- HAZard 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

137th Project

Al-Tajiyat 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

136th 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

CLIENT CONTACTS:

Person-in-charge: Mr. Kaviani (Project Manager) Tel: 09121136715

135th 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

CLIENT CONTACTS:

Person-in-charge: Mr. Mehdi Esmailabadi Tel: 09173053189

134th Project

Utility and Off-site of Lordegan Petrochemical Company

CLIENT

Hampa Energy Design & Engineering Company (HEDCO)

DESCRIPTION

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.

CONTENTS

- HAZard and OPerability (HAZOP)

STATUS

Commenced: June 2013

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ali Arshadi Tel: :(0711) 2263183-96

133rd Project

Sarvestan-Saadat Abad Oil Field Development Project

CLIENT

ODCC

DESCRIPTION

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).

CONTENTS

- HAZard and OPerability (HAZOP)

STATUS

Commenced May 2013

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Teymouri Tel: 09125499429

132nd 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

131st 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. Dowlatsahi (Project Manager) Tel: 88799771

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 heaters 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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

Person-in-charge: Mr. F. Ahmadi Tel: 22971442

128th Project

Foroozan Field Development New F18 Platform

CLIENT

Iran International General Contractor Company (IGC)

DESCRIPTION

Iranian offshore oil company (IOOC) 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

127th Project

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

126th Project

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:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. N. Nourisamie (Project Manager) Tel: 22023946

125th Project

Oxygen Plants in Mobarakeh Steel, Saba and New Development Plants

CLIENT

Esfahan Mobarakeh 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:

Project Manager: Dr. D. Rashtchian

CLIENT CONTACTS:

Person-in-charge: Mr. Mir (Project Manager) Tel: 03355435458

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

CLIENT CONTACTS:

Person-in-charge: Dr. Hamidi (Project Manager) Tel: 88553427 - 88704332

122nd 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

CLIENT CONTACTS:

Person-in-charge: Mr. M. Mokhadderati Tel: 88071455

121st 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 study (API pumps)
- SIL studies (process gas compressors)

STATUS

Completed

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Wubing, Gong

120th 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)
- Safety Integrity Level (SIL)
- HAZard IDentification (HAZID)

STATUS

Commenced December 2012

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. K. Faghihi (Project Manager) Tel: 88052864

119th 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

CLIENT CONTACTS:

Person-in-charge: Mr. M. Seyed Hosseini
Mr. B. Khodadadeh

Tel: 88065494 (1065)

118th 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

CLIENT CONTACTS:

Person-in-charge: Mr. F. Heidari (Project Manager)

Tel: 27604040

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

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)

113th 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

CLIENT CONTACTS:

Person-in-charge: Mr. H.Motamedi (Business Manager) Tel: 88722188/88556360

112th 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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

Person-in-charge: Mr. M. Shirkhorshidi (Project Manager) Tel: 22579735

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 is 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

CLIENT CONTACTS:

Person-in-charge: Mr. N. Mirfasihi Tel: 88066209 (189)

109th 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

CLIENT CONTACTS:

Person-in-charge: Ms. J. Hou (Project Manager) Tel: 23592000

108th 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

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:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. M. Pourzarrabi Tel: 0711-2136431-32

104th Project

Shurijeh Gas Treatment, Injection and Storage Facilities

CLIENT

JondiShapour Company

DESCRIPTION

JondiShapour 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:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. A. Behrouzi (Project Manager) Tel: 26405040

103rd 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

102nd 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
- Quantitative Risk Assessment (QRA)
- Safety Integrity Level (SIL)

STATUS

Commenced 2012

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. Ahmadpour (Project Manager) Tel: 27624040

101st 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:

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

CLIENT CONTACTS:

| | | |
|-------------------|---------------------|------------------|
| Person-in-charge: | Mr. S. Poursoleyman | Tel: 08323272127 |
|-------------------|---------------------|------------------|

100th 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:

| | |
|--------------------|-------------------|
| Project Manager: | Mr. V.Hashemi |
| Technical manager: | Mr. R. Johari Nad |

CLIENT CONTACTS:

| | | |
|-------------------|-----------------|---------------|
| Person-in-charge: | Mr. Yazdanipour | Tel: 88550409 |
|-------------------|-----------------|---------------|

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

Person-in-charge: Mr. Bazargan Tel: 82447510

95th 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 LyondelBasell 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

94th 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

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

CLIENT CONTACTS:

Person-in-charge: Mr. Raei and Mrs. Forouzandeh Tel: 88750190

90th Project

Pardis 3rd Ammonia Plant

CLIENT

Namavran 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

CLIENT CONTACTS:

Person-in-charge: Mr. Sa'adati Tel: 88603499

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 tow 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
- HAZID Study
- SIL Study

STATUS

Commenced October 2011

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

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

CLIENT CONTACTS:

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

CLIENT CONTACTS:

Person-in-charge: Mr. Cheraghi Tel: 88376761-64

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 SINOPEC 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

CLIENT CONTACTS:

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

83rd 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

82nd Project

Tange-e-Bijar & Kamankuh Gas Field

CLIENT

Tehran Raymand Consulting Engineers

DESCRIPTION

Iranian Central Oil Fields Company (ICOFC) intends to develop Tang-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

CLIENT CONTACTS:

Person-in-charge: Mr. Tayebi Tel: 88554069

81st 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

CLIENT CONTACTS:

Person-in-charge: Mr. Gh. Ahmadpour (Project Manager) Tel: 88052850

80th Project

IGAT VI Khoormouj and Deylam Compressor Stations

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

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

76th Project

Sirri NGL Plant

CLIENT

Iranian Offshore Oil Company (IOOC)

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.

CONTENTS

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

STATUS

Commenced January 2011

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. M. Mousavi (R&D Dept. Dir.) Tel: 22664481

75th Project

Varavi Development Project

CLIENT

Farab-Nardis Consortium

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.

CONTENTS

- EIA
- EMMP

STATUS

Commenced January 2011

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. Safaie Tel: 88556734-8

74th 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 | ▪ Consequence Modeling |
| ▪ HAZOP | ▪ Quantitative Risk Assessment (QRA) |
| ▪ RAM Study | ▪ Comprehensive Safety Analysis |

STATUS

Commenced January 2011-Finished February 2012

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

| | | |
|------------------------|-------------------------------|---------------|
| Person-in-charge: | Mr. H. Movahhedi (Proj. Man.) | Tel: 82132653 |
| Technical Coordinator: | Ms. Z. Eghbali | |

73rd 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

CLIENT CONTACTS:

| | | |
|------------------------|------------------------------------|--------------------------|
| Person-in-charge: | Mr. A. Talebi Anaraki (Proj. Man.) | Tel: 81282173, 81283810 |
| Technical Coordinator: | Ms. N. Sharifzadeh | Tel: 88889312, 8877816-9 |

72nd 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 | ▪ Consequence Modeling | ▪ Layout optimization, Impacted/Restricted Area & Fire Zones |
| ▪ HAZOP | ▪ Quantitative Risk Assessment QRA-Pipelines | ▪ Extent of fireproofing determination |
| ▪ SIL Study | ▪ Quantitative Risk Assessment QRA-Major Equipment | ▪ Fire Consequence Layout |
| ▪ RAM Study | | ▪ 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

71st Project

Qeshm Topping Plant

CLIENT

Nik Sanaat Parsian Investment Company

DESCRIPTION

Nik Sanat Parsian Company intends to establish the Topping Plant for production Bitumen from heavy asphaltenic 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 | Tel: 88936052-5 |
| Technical | Mr. Kang Xiang | Tel: 888096214-88800763 |
| Coordinator: | | |

69th Project

Flare Relocation Project for South Pars Phase 1

CLIENT

Petro Part Company

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 |
|-------------------|---------------|---------------|

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

CLIENT CONTACTS:

Person-in-charge: Mr. A.Talebi 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

CLIENT CONTACTS:

Person-in-charge: Mr. A. Poursafar 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

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) | Tel: 0711-2113558 |
| Technical Coordinator: | Mr. F. Dehghani | Tel: 0711-2113333 |

63rd Project

Shurijeh Gas Storage Project

CLIENT

Jondishapur Company

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 | ▪ HAZID |
| ▪ Determination of fire zones (TOTAL approach) | ▪ HAZOP |
| ▪ Determination of impacted and restricted area (TOTAL approach) | |

STATUS

Commenced June 2010-Finished July 2011

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

| | | |
|------------------------|----------------------------------|---------------|
| Person-in-charge: | Mr. M. Soleimanzadeh | Tel: 88677015 |
| Technical Coordinator: | Ms. S. Ravanbakhsh (coordinator) | |

62nd Project

Dorood III Compressor Station

CLIENT

Alborz Masir Company

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 | ▪ Reliability, Availability, Maintainability (RAM) Study |
| ▪ HAZOP | |
| ▪ Qualitative Risk Assessment (QRA) | ▪ Environmental Impact Assessment (EIA) |
| ▪ Quantitative Risk Assessment (QRA) | |

STATUS

Commenced June 2010

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

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

61st 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

CLIENT CONTACTS:

| | | |
|--------------------|------------------------------------|---------------|
| Person-in-charge: | Mr. Poursafar (Head of HSE at POC) | Tel: 23036425 |
| 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

CLIENT CONTACTS:

| | | |
|-------------------|-------------------------|---------------|
| Person-in-charge: | Mr. Farzi (HSE Manager) | Tel: 23942565 |
|-------------------|-------------------------|---------------|

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 | ▪ Emergency Response Planning |
| ▪ HAZOP | ▪ Pipeline Integrity Management Program |
| ▪ Quantitative Risk Assessment (QRA) | |

STATUS

Commenced Decemeber 2009

CONTACTS:

Project Manager:

Dr. E. Kashi

CLIENT CONTACTS:

Person-in-charge:

Mr. Abbasian (Project Manager at Tarh Andishan)

Tel: 88824370
Tel: 88824370

Managing Director:

Dr. Arabshahi

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

Iran International General Contractor (IGC)

DESCRIPTION

The main component of the project is a 32" export pipeline of 540 MMSCFD capacities 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 field 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

53rd Project

Fajr-2 Co-generation Plant

CLIENT

MAPNA Company

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

52nd Project

Persian Gulf Star Refinery Water Intake

CLIENT

SADRA Company

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

51st 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. Ziayian (Managing Director) Tel: 88775071-3

50th 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

49th 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

48th 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
- Qualitative Risk Assessment
- SIL Study

STATUS

Commenced October 2009-Finished October 2010

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Ghanizadeh (R&D Dept.) Tel: 0761 5564181-5

47th 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
- SIL Study
- HAZID Study

STATUS

Completed

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. M. Mokhaddarati (Project Manager) Tel: 88370833-6

46th Project

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
- HAZOP and HAZID Studies
- JSA
- Risk Assessment
- System development and documentation
- Staff training

STATUS

Commenced April 2009-Finished February 2010

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. A. Poursafar (HSE Manager) Tel: 22915227, 22229155

45th Project

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

CLIENT CONTACTS:

Person-in-charge: Mr Fayazi Tel: 88063320

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 | ▪ Safe area determination around the refinery |
| ▪ Topographical condition studies | ▪ Flare condition study |
| ▪ Major scenarios determination | ▪ Toxic gas dispersion study |
| ▪ Consequence modeling for all selected scenarios | ▪ Book translation |
| ▪ Consequence modeling trainings course | ▪ Preparing educational package for consequence modeling |

STATUS

Commenced August 2008

CONTACTS:

Project Manager: Mr. E. Kashi

CLIENT CONTACTS:

Person-in-charge: Mr. Abdoli Tel: 66155180

43rd 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 | ▪ Safe area determination around the refinery |
| ▪ Topographical condition studies | ▪ Flare condition study |
| ▪ Major scenarios determination | ▪ Toxic gas dispersion study |
| ▪ Consequence modeling for all selected scenarios | |

STATUS

Completed

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Gholami Tel: 66152773

42nd 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

CLIENT CONTACTS:

Person-in-charge: Mr. H. Mirzaei (Engineering Manager) Tel: 22830909

41st 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:

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 | ▪ UFD, P&ID and Calculation Notes for all FiFi systems |
| ▪ Fire and Explosion Analysis | ▪ Spec.'s and Datasheets for all FiFi and Safety Equipment |
| ▪ Fire Protection Philosophy | ▪ Material Requisitions and TBE |
| ▪ Hazardous Area Classification | |

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 | ▪ Safe area determination around the refinery |
| ▪ Topographical condition studies | ▪ Flare condition study |
| ▪ Major scenarios determination | ▪ Toxic gas dispersion study |
| ▪ Consequence modeling for all selected scenarios | |

STATUS

Completed August 2008

CONTACTS:

Project Manager: Mr. B. Abdolhamidzadeh

CLIENT CONTACTS:

Person-in-charge: Mr. Mohammadnejad

38th Project

NGL-3100 (Cheshme Khosh)

CLIENT

Sazeh Consultants

DESCRIPTION

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.

CONTENTS

- Equipment and unit layout optimization
- Building blast risk assessment (to API 752)
- Critical detection points
- Fireproofing requirements
- Flares and cold vents simulation
- Determination of fire zones (TOTAL approach)
- Determination of impacted and restricted area (TOTAL approach)
- Accident simulation for feed and products pipelines

STATUS

Completed

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge: Mr. F. Ebrahimzadeh (Project Manager) Tel: ۷۷

37th 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 | ▪ Cause & Effect Charts |
| ▪ Fire and Explosion Analysis | ▪ UFD, P&ID and Calculation Notes for all FiFi systems |
| ▪ Risk Assessment | ▪ Spec.'s and Datasheets for all FiFi and Safety Equipment |
| ▪ Detection Layouts | ▪ Escape Routes Drawings and FiFi Layouts |
| ▪ Hazardous Area Classification | |
| ▪ Material Requisitions and TBE | |

STATUS

Commenced June 2008

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT 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: <ul style="list-style-type: none"> ○ HAZOP Study ○ HAZID Study ○ FMECA | ▪ Ship maneuver simulation |
| ▪ Qualitative and Quantitative Risk Assessment | ▪ Development of Emergency Response Plan |
| | ▪ Development of Safe Operating and Maintenance Procedures |

STATUS

Completed

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT 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

33rd 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

32nd 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 Decemebr 2008

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

Person-in-charge: Mr. Khonsari Tel: 22913440-5

31st 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

CLIENT CONTACTS:

Person-in-charge: Mr. Amiri Tel: 22913440-5

30th 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

29th 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

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), EIED (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 (ODCC) – 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

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 | ▪ Environmental Job Specification | ▪ Passive Fire Protection Job Spec., Drawings & Details |
| ▪ RAM/Criticality Assessment | ▪ Waste Management Plan | ▪ Fire Protection Job Specification and Firewater Report |
| ▪ Dropped Objects Study | ▪ Noise Control Job | ▪ Firewater System UFD's and P&ID's |
| ▪ Natural Ventilation Study | ▪ SpecEmergency System Vulnerability Study | ▪ Fire & Safety Equipment Layouts, Specification |
| ▪ ShipFire and Smoke/Gas Dispersion and Explosion Study | ▪ Building Safety Functional Specification | ▪ Escape Routes Layouts & EER Equipment Spec. |
| ▪ Escape, Evacuation and Rescue Study | ▪ Building Blast and Fire Protection Report | |
| ▪ Area Classification Schedule | | |
| ▪ Risk Assessment | | |

STATUS

Commenced November 2007

CONTACTS:

Project Manager: Dr. F. Nouraei

CLIENT CONTACTS:

Person-in-charge:

Mr. Nouri Samie

Tel: 22023944

23rd 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. Azimpouran

Tel: 0411 4293850

Managing Director:

Mr. Dakhili

Tel: 0411 4293850

22nd 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

21st 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

20th 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

19th 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 - 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 all lines, facilities, equipment, Utilities and auxiliary services have been studied in HAZOP meeting by our members in attendance of representatives of Payandan, 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 - Pazhouhesh 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

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

14th 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 Tel: 0761-5564181-5

Managing Director: Mr. Shahriyari Tel: 0761-5564181-5

13th 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
- Emergency Planning
- Consequence Modelling
- 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 Tel: 88824370

Managing Director: Dr. Arabshahi Tel: 88824370

12th Project

Emergency Planning for CNG Stations

CLIENT

Greater Tehran Gas Co. (Tehran)

DESCRIPTION

Development of an emergency response plan for CNG Stations based on systematic design review and risk assessment

CONTENTS

- Hazard Identification
- Consequence Modelling
- Emergency Planning

STATUS

Commenced May 2006

CONTACTS:

Project Manager: Dr. F. Nouraei (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:

| | | |
|--------------------|------------|------------|
| Person-in-charge: | Mr. Talari | Tel: 81971 |
| Managing Director: | Mr. Araghi | Tel: 81971 |

11th Project

Tabriz Petrochemical Plant – HIPS II Unit Detailed Engineering

CLIENT

Pazhouhesh Sanat Naft (on behalf of Tabriz Petrochemical Co., Tabriz)

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.

CONTENTS

- HAZOP study

STATUS

Commenced March 2006

CONTACTS:

Project Manager: Mr. V.Hashemi (for Rastar Farayand Consulting Eng.)

CLIENT CONTACTS:

| | | |
|--------------------|--------------------|---------------|
| Person-in-charge: | Mr. A. Khoshkdahan | Tel: 88575288 |
| Managing Director: | Mr. M. Kasaeian | 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 Tel: 88803378

Managing Director: Mr. Tahvildarzadeh Tel: 88803381

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

CLIENT

Namvaran Consultants (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.

This project was concerned with the specialized safety engineering services related to the new installations proposed.

CONTENTS

- | | |
|---------------|-------------------|
| ▪ HAZID Study | ▪ RAM Study |
| ▪ HAZOP 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 | Tel: 021-8775287 |
| Managing Director: | Mr. Ardeshirian | Tel: 021-8778689 |

04th Project

Razi Petrochemical Complex

CLIENT

Razi Petrochemical Company

DESCRIPTION

Hazard Identification and evaluation via audit, Checklist, HAZOP and FTA methods for three Gas Sweetening Units at Razi Petrochemical Complex.

CONTENTS

- | | |
|----------------------------|-----------------------|
| ▪ HAZOP Study | ▪ Fault-Tree Analysis |
| ▪ Audit/Checklist Analysis | |

STATUS

Completed

CONTACTS:

Project Manager: Mr. V.Hashemi

CLIENT CONTACTS:

| | | |
|--------------------|-----------------------------------|------------------|
| Person-in-charge: | Mr. Poorsaadat, R&D Dept. Manager | Tel: 06522662712 |
| Managing Director: | Mr. Dashti | Tel: 06522662712 |

03rd 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 | Tel: 08612287011-21 |
| Managing Director: | Mr. Ghamsari | Tel: 08612287011-21 |

02nd 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. Aghanasari | Tel: 05842234560-5 |
| Managing Director: | Mr. Rastegarpour | Tel: 05842234560-5 |

01st Project

Various Safety Engineering Services

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 | ▪ Reliability Analysis |
| ▪ ESD Block Diagram | ▪ Safety Analysis Report (SAR) |
| ▪ Fire-Fighting Layout/P&ID | ▪ Gas Dispersion Study |
| ▪ Safety & Fire-Fighting Equipment Datasheets | ▪ Fire-Fighting Equipment Specification |
| ▪ Technical Bid Evaluation | ▪ Safety Equipment MTO & MR |
| ▪ Fire & Gas Detection Layout | ▪ Fire & Explosion Study |
| ▪ Escape Routes Layout | ▪ Fire Station Design |
| ▪ Fireproofing Study | ▪ First-Aid Kit Specification |
| ▪ Calculation Notes (Deluge system, sprinklers, spray nozzles, etc.) | ▪ 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











HAZOP & SIL Training Course for ILPC







AFTAB IMEN PARTO
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